# SMALL SCALE INDUSTRIES

DEVELOPMENT COMMISSIONER, SMALL SCALE INDUSTRIES
GOVERNMENT OF INDIA, NEW DELHI

CFTRI Experiment STATION
Dy/ACC No. 357
Date 27/7/72.
Gill Road LUDHIANA-3

# SMALL
# SCALE
# INDUSTRIES

VELOPMENT COMMISSIONER • SMALL SCALE INDUSTRIES
NISTRY OF I.D. & I.T. • GOVERNMENT OF INDIA • NEW DELHI

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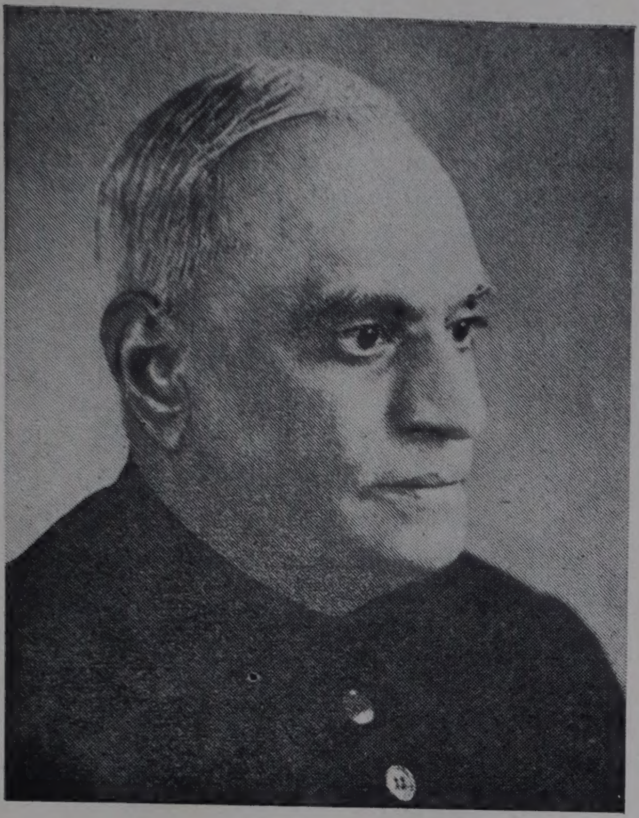
# BLESSINGS



सत्यमेव जयते

**Rashtrapati Bhavan**
**New Delhi-4**

February 1, 1971

I am very glad to learn that a special publication on small scale industries is being brought out and the publication will be comprehensive in its scope and deal with all the important aspects of development of the small scale sector. The rapid growth of modern small scale industries over the last decade has been one of the most significant and heartening features of our economy. I have been greatly impressed by the performance of the small scale sector, not only in conventional fields of production, but also in sophisticated fields including production of durable consumer goods, producer's goods and also import substitution. More than the vast array of products manufactured by small scale industries, it is the capacity of the sector to utilize local resources of skilled and semi-skilled labour, to decentralise industrial growth and to bring about a more equitable distribution of income and wealth, which makes it a singularly appropriate tool of economic development in the existing conditions in India. The essence of the small industries programme lies in its potential for offering opportunities of gainful employment not only to educated and technical man-power, but to the practically unlimited labour force.

It is necessary to emphasize that the greatest need of the country at the present time, is mobilisation of all resources for bringing about rapid social and economic changes to give content and meaning to the political freedom that the nation had achieved. While the objectives laid down in successive Five-Year Plans for absorbing surplus man-power through the creation of work opportunities are laudable, the actual achievements have not, however, been commensurate with the needs of the situation. It is of the utmost importance to bridge the widening gulf between economic growth and surplus man-power, adding to the existing back-log of unemployment.

A bold, imaginative development programme is called for to generate employment opportunities on a massive scale coupled with rapid economic growth. The emphasis on technology to be used in a developing country like India should be appropriate to smaller units of production. Modern technology as used in the highly industrialised nations of the world cannot be the basis for our planning. An employment-oriented industrial programme which can fully absorb local skills and raw materials and take care of local consumption needs, is urgently called for. To suit the abundance of labour and scarcity of capital in India, technology has of necessity to be labour-intensive. Rapid industrialisation cannot take place by setting up a few large and heavy industries only. Modern science, through adaptation of sophisticated technology, can provide the tools necessary for rapid industrial development, consistent with our need for creating employment opportunities on an extensive scale.

The need of the hour is a massive programme of small industries development in medium and smaller towns and also in rural areas, to deal with the challenge of unemployment. The process of agricultural transformation, which has just begun, has immense potentialities for integrated agro-industrial development throughout the country. This will add a new dimension to the scope for development of small scale industries on a dispersed basis.

Successful utilization of man-power resources has been the key-note of the progress of several advanced countries. Japan built her large network of small industries on a labour intensive basis with the help of simple and light machinery. Rural man-power was effectively utilized for the industrialization of the country by adapting the traditional techniques to modern methods with the aid of power. The close and effective co-ordination between large and small scale sectors of industries in Japan has amply demonstrated that by adopting the right planning technique, it is possible to overcome almost any type of obstacle to industrial growth. The lesson of experience demands that each large scale undertaking in future should be linked to a number of small scale ancillary units to supply parts, components, accessories, etc., to maximise the scope for absorption of surplus man-power through rapid proliferation of small scale industries. It is of course necessary to emphasise that the quality of the products from small scale units should conform to high standards to meet the requirements of the large scale units.

To implement a massive programme of development of small scale industries, it would be necessary to improve skills through training and provide a number of incentives for attracting entrepreneurs to this field. Fiscal and other measures are required to enable these industries to compete with large scale industries with their superior resources. Greater emphasis will have to be placed on a variety of positive measures including provision of both short-term and long-term credit on a liberal basis, adequate supply of scarce raw material for full utilization of capacity, provision of testing facilities, tax concessions and differential excise duties. Further, to extend a measure of protection to small scale industries from undue competition in the initial stages, the existing reservation of a number of products for small scale industries should be widened to include products, components and even processes which are being undertaken competently in the small scale sector.

I firmly believe that the development of small scale industries offers the best means of fulfilling the aspirations of the largest number of people in our country for a better and higher standard of living which is the fundamental aim of our planning. Apart from economic gains, the contribution of small scale industries in laying a firm basis for an essentially decentralised society, can hardly be overemphasised.

I am sure this book on small industries will meet a long-felt want for a comprehensive and authoritative treatise on all aspects of the development of this vital national sector of our economy.

V.V. Giri

(V.V. GIRI)

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# INTRODUCTION

The first comprehensive publication on small scale industries in India was brought out in March, 1968 giving detailed information on the Small Industries Programme in general and the rapid development of the small scale sector in the country in particular. It was decided to bring out another special publication in 1971 which would be even more comprehensive in its scope and could truly become an encyclopaedia on Small Industries Development in India. This has been considered particularly necessary in view of the keen interest displayed by developing countries in the programme of small industries development pursued by India. Although the problems and patterns of growth in the different developing countries are not identical, there are many points of similarity. In view of the particular need in developing countries to provide employment opportunities on a substantial scale and to ensure that the economic benefit ensuing from the process of development is widely shared by all sections of the people, development of small scale industries has become a very important plank in the programme of development of all these countries. It is felt that the lesson of experience in India in the development of small scale industries will be of particular significance to all concerned with the implementation of the small industries programme in their respective fields.

The pace of development of small scale industries has been fully maintained in recent years in spite of certain drawbacks in regard to availability of scarce raw materials, both imported and indigenous. The number of small units registered with the Director of Industries which was 121,619 at the end of 1966 increased to 190,727 at the end of 1970. It will be seen that the increase in registered factories has been at the rate of 17,000 per year during the period 1967-70. Besides this there are a very large number of unorganised units (about 300,000) which are spread over different parts of the country. Although the contribution of the unorganised units in terms of production is somewhat limited, their potential for giving employment to a large number of people is very substantial indeed. It may be stated that in 1965-66, the total employment provided by small scale industries of all types was nearly 5.8 million. This figure is estimated to have crossed 6.3 million as at the end of March, 1970. The estimated gross value of output in the small scale sector including the registered and the unregistered units was approximately Rs. 36,700 million in 1969-70. In spite of the setback due to recession during 1966-67, the small industries sector has grown steadily over the last two or three years and the average rate of growth has been around 11% as against 8% or so before 1965-66. It will, thus, be seen that this sector has been making a very significant contribution to industrial production and employment and has fully justified the hope of the planners and administrators in increasing employment opportunities and the production of goods and services throughout the country.

The process of transformation of the small enterprises from the traditional to a modern sector of industrial economy of the country has been possible by the adoption of uptodate techniques of production and management on a systematic basis. It is necessary to emphasize the fact that a large number of small scale units have taken to sophisticated lines of production including durable consumer goods and producer goods and many types of parts and components which require high degree of precision and skill. Such small scale units have established a reputation for quality while using indigenous inputs and appropriate technology. Apart from the significant economic gains, the contribution of the sector in bringing about a degree of decentralization in creating focal points of industrial development in different parts of the country, achieving more equitable distribution of income and wealth and reducing regional disparities of development, deserves special mention. With the process of agricultural transformation, which has just begun, immense potentialities are being unfolded for the widespread growth of small scale industries through integrated agro-industrial development. The commendable success achieved in this sphere has given a fresh impetus to the process of development of the relatively backward areas in the country.

It will not be out of place to mention here that the sustained development of small scale industries in India and their proven competence in the manufacture of several products of acceptable quality and improved design have attracted the attention of many developing countries. A number of countries have come forward with proposals for the conduct of techno-economic surveys by the Indian small industry experts, to assess potentialities of development of small scale industries in their countries. It has been the privilege of the Small Scale Industries Development Organization (SSIDO) to send teams of technical and economic experts to a number of countries and to prepare comprehensive reports on the prospects of small industries development in these countries. The fact that the reports prepared by the teams have earned appreciation in the countries concerned indicates the scope for techno-economic consultancy service between developing countries in the promotion of small scale industries.

It will be pertinent to mention that the achievement of the small industries sector in various fields have been mainly due to the concerted and multilateral efforts put in by the SSIDO which have resulted in increased exports and substantial import substitution and helped the small industries sector to enter a new and dynamic phase of development with outstanding success. It is, however, to be mentioned that the Small Industries Development Programme underwent an orientation in favour of modernization and decentralization to fulfil the objectives of the programme under the 4th Plan. The emphasis on promotional measures under the 4th Plan is on the following :—

(i) More effective implementation of the Industrial Policy Resolution to fulfil the declared objective of rapid promotion of small scale industries.

(ii) Phased programme of modernization of the small scale sector.

(iii) Intensive development of selected small scale industries in the sophisticated fields.

(iv) Closer integration between large scale and small scale sectors through development of ancillary industries.

(v) Integrated development of the agricultural and small industries sectors.

(vi) Dispersal of small scale industries through intensification of rural industrialisation programme and development of small scale industries in medium and smaller towns through a scheme of incentives.

(vii) Special encouragement to persons with technical and managerial background and to unemployed engineers, to develop entrepreneurial ability and talent in the country for setting up small scale industries.

The provision of Industrial Extension Service comprising of technical assistance, economic intelligence service, management consultancy service, provision of common production and testing facilities etc., is the most important component of the Small Industries Development Programme. To meet the diversified needs of small scale industries engaged in different fields of production, technical guidance was given on an increasing scale to the existing and prospective entrepreneurs by the experts of the SSIDO. Industrial Extension Service was manned by over 800 experts having technical, economic and managerial background. These experts were increasingly called upon to give advice in recent years on improved technical processes, use of modern machines and tools, preparation of drawings and designs etc. Demonstrations on the use of modern techniques were given through the workshops and laboratories of the Small Industries Service Institutes in various States. Also, technical literature such as Technical Bulletins, Project Reports, Model Schemes, Plant Guides etc. were prepared for the small industrialists. The Industrial Design Cell of the Organisation put in special efforts to prepare over 300 designs and drawings and supplied nearly 500 blueprints in 1969-70. Further boost to the development of small scale industries was given by the establishment of two new projects by the Government of India under the special fund assistance of the UNDP. These are the Central Institute of Tool Designs at Hyderabad and the Institute of Designs for Electrical Measuring Instruments at Bombay.

In order to keep pace with the increasing demand from modern small scale industries for managerial assistance, the programme for training persons in Industrial Management through various courses organised by the SSIDO was intensified in recent years. On an average, 4,000 persons are being trained per year in these courses. The technical courses organised by this Organisation through their Extension Centres train nearly 3,000 persons per year and help them to upgrade their skills. In addition, Management Consultancy Services are rendered through enterprise-counselling and undertaking of Integrated Plant Studies on a systematic basis. Through the programme of Industrial Potential Surveys in selected areas, preparation of Industry Prospect Sheets and Economic Information Leaflets, it has been possible to serve the entrepreneurs with reliable information regarding the prospects of a large number of new small enterprises in different parts of the country. Economic enquiries numbering nearly 30,000 per year are answered to help the prospective small industrialists to take appropriate investment decisions for setting up new small enterprises. The Feasibility Studies, Market Survey Reports and other special studies are being conducted systematically in response to the changing need pattern of small scale industries to enable the prospective entrepreneurs to make the right selection of manufacturing lines for setting up their ventures.

The growing technical competence and economic viability of the small scale enterprises enabled the SSIDO to enlarge the list of items for exclusive production in the small scale sector. In addition to 55 items already reserved for small scale industries it has been considered appropriate to reserve about 40 more items for exclusive production in the small scale sector. This particular measure is expected to give a boost to the development of a large number of small scale units on a dispersed basis, to cater to regional demands.

To further facilitate the growth of a decentralized economy through dispersal of industries, this Organisation launched vigorous Intensive Development Campaigns in different parts of the country and encouraged a large number of entrepreneurs to set up small industries in semi-urban and rural areas. The scheme of decentralisation of industries was reinforced by the Rural Industrialisation Programme under which 49 Rural Industries Projects have been set up for intensive development of small industries in rural areas. The operational base of the programme has been recently widened to include the development of Growth Centres and agro-industries within its scope. This programme has proved particularly effective in increasing employment opportunities in rural areas, diversifying their occupational base and reducing the exodus of the rural population to congested urban centres.

The industrial estates programme was initially intended to remove the chronic handicap of small scale industries in regard to adequate factory space and related facilities, but the entire programme has subsequently been geared to the development of small scale industries on decentralized basis. Out of 505 sponsored estates, 389 had been completed and 303 were functioning as on 31st March 1970 whereas other Industrial Estates are in the process of completion. 5413 units have been set up in these estates producing goods worth about Rs. 1000 million and providing employment to nearly 100,000 persons. Of the 303 functioning estates, there are 141 in urban areas, 96 in semi-urban areas (with population upto 50,000) and 66 in rural areas. The emphasis on the programme of industrial estates continues to be on consolidation rather than on expansion and the future construction of industrial estates is being left to corporate and cooperative bodies to increase the participation of small industrialists in the execution and management of the programme right from the beginning.

One important measure which has helped nearly 20,000 small scale units to stabilize their production, is the assistance rendered to secure their participation in the Central Government Stores Purchase Programme. The SSIDO recommends units for enlistment under the aforesaid programme after assessing their technical competence to produce goods according to the requirements of the purchasing offices. As the Government is the largest purchaser of many types of products, the public sector procurement has been oriented to fulfil national industrial objectives by giving support to small scale units through canalization of substantial orders to them. The list of items which are reserved for exclusive purchase from the small scale sector under the Government Stores Purchase Programme has been recently increased from 146 to 166 through the persistent efforts of the SSIDO.

As rightly stressed in the basic objectives of the Small Industries Development during the 4th Plan period, the integrated development of large and small scale sectors has been accorded very high priority in the industrial development programme of the country. It would not be an exaggeration to say that the self-sustaining growth of small scale industries would depend largely on the coordinated development of large and small scale sectors through a wide network of small scale ancillary units. Therefore, special attention was given by this Organisation to broaden the operational base of the small scale sector by setting up a large number of small scale enterprises as ancillaries to large scale undertakings. This Organisation had to be in close touch with the large scale undertakings in both the public and private sectors, to work out programmes for integrating the development of small scale units with that of the large scale parent units. However, the whole success of the ancillary programme depends on the competence of the small scale units to manufacture quality goods according to the requirements of the parent units. It is gratifying to note that the technical competence achieved by the small scale sector has made it possible to lay a firm basis for the rapid growth of small scale ancillary units. It is estimated that nearly 10,000 units had supplied goods worth Rs. 278 million to the parent concerns, besides catering to the needs of the replacement market.

This development in the small scale sector would not have been possible but for the liberalised supply of credit and raw materials. It is an indicator of the growth of the small scale sector that foreign exchange worth Rs. 650 million was allotted for the import of raw materials and components for small scale units during 1969-70. This, however, is only a fraction of the actual requirements of the small scale sector and there is no doubt that a larger allocation of foreign exchange to meet the raw material requirements of small scale units will enable them to increase the output and employment substantially and make a more impressive contribution to the economy. So far as the supply of credit is concerned, the increase in financial assistance by the commercial banks to the small scale sector over the last 4 years was of the order of Rs. 3031 million. In fact, there was more than 400% increase in the funds advanced at the end of 1970-71 as compared to that of 1965-66. Credit being one of the key inputs for realizing the development potential of the small scale industries, this Organisation had fully collaborated with the commercial banks in preparing the techno-economic appraisal reports on small industrial units applying for loans. This particular service had enabled the banks to assess the credit-worthiness of the applicants properly and process their cases reasonably quickly for sanctioning adequate loans.

As would be apparent from the foregoing account of the Small Industries Development Programme in the country, the whole thrust of the programme was to render different types of assistance to small scale units on an integrated basis to remove the basic handicaps of small scale industries and help them achieve technical competence and viability within a reasonably short time. This purpose has been amply fulfilled; but the future task is more challenging because of the complexities involved in the development of the small scale industries in sophisticated fields. However, with the experience gained in the implementation of the Small Scale Industries Development Programme over a number of years, this Organisation has acquired the competence and expertise to face the future with confidence. During the remaining years of the 4th Plan period, this Organisation will lay emphasis on progressive modernization of the small scale sector so as to bridge the productivity gap which still exists between the large scale and small scale enterprises and to increase the technical competence and economic viability of small scale units. It has been possible through the coordinated efforts of all agencies concerned to generate 'built-in' industrial climate in different parts of the country for widening the operational base of the small scale industries and the reorientation of the Small Industries Programme to meet the challenge of the Seventies' will definitely help to ensure a brighter future for small scale industries in the economy of the country.

I am grateful to eminent persons in India and abroad who have kindly responded to my invitation to contribute articles to this volume. I am thankful to Shri R. Venkataraman, Member, Planning Commission, Shri R.A. Patil, Minister for Industries, Government of Maharashtra, Shri Jaswant Mehta, former Minister for Industries, Govt. of Gujarat, Shri S. Madhavan, Minister for Industries, Govt. of Tamilnadu, Shri Manubhai Shah, Shri A.G. Kulkarni, Member of Parliament, Dr. P. S. Lokanathan, Shri D.C. Kothari, President, Federation of Indian Chambers of Commerce & Industry, New Delhi, Shri B. Shivaraman, ICS, former Cabinet Secretary, Government of India, Shri H.D. Shourie, Director General, Indian Institute of Foreign Trade, New Delhi, Dr. Ram K. Vepa, Director (Materials Planning), Union Ministry of Industrial Development & Internal Trade, Shri K.N. Sapru, Chairman, National Small Industries Corporation of India Ltd., New Delhi, Shri B.N. Bhattasali, Executive Director, National Productivity Council, Shri S.K. Sen, Director General, Indian Standards Institution, New Delhi and Shri Baldev Singh, Scientist Incharge, Council of Scientific and Industrial Research for the encouragement given to us in this positive manner in bringing out the publication. I would like to record my special gratitude to Mr. Igor Krestovsky, Chief, Small Scale Industry Section, United Nations Industrial Development Organisation (UNIDO), Vienna, Mr. R. Donn, Principal Head of Division, Information and Transfers of Experience, Organisation for Economic Cooperation and Development (OECD), Development Centre, Paris, Mr. Kohei Goshi, President Japan Productivity Centre, Tokyo, Mr. Albert Aten, FAO Liaison Officer, UNIDO, New York and Mr. Robert Holtz, External Trade Adviser, Secretary General, International Federation of Small and Medium Enterprises, 18, rue Fortuny—Paris XVII$^{e}$ for making their contribution to this volume.

I would like to place on record my personal appreciation of the arduous and meritorious work done by the Publication Division of this Organisation. I am grateful to Shri D.D. Basu, Industrial Adviser, who is also incharge of the Publication Division for supervising and coordinating all aspects of the work relating to the production of this volume. My thanks are due to Shri S.P. Goel, Assistant Editor for his extremely arduous and meritorious work in all phases of the work. It would have been difficult to see through this publication but for the special efforts put in by Shri M.P. Rao, Assistant Director, Shri V.P. Khullar and Shri C.T. Thomas, Small Industries Promotion Officers who had worked very hard to make the publication a success. Shri N.K. Govil, Assistant Director and Shri R.S. Madhukar Assistant Editor, Sarvashri S.C. Saxena, A.S. Bajaj, Madan Lal, Harbans Singh, M.M. Sexena and Mrs. A. Bose, Small Industries Promotion Officers and S/Shri Siri Ram & Yad Ram deserve mention for their contribution in the total effort. Mrs. R. Chibber, Asstt. Editor and Sarvashri N.M. Agrawala, Raj Narain and Prakash Narain actively assisted in organising the production of the volume and I very much appreciate the effort put in by them. A special mention may be made of Shri S.C. Gupta, E.T.O. for working untiringly to process the advertisements and providing general assistance in every stage of production. S/Shri C. Pakrashi and M.A. Jomraj, Asstt. Industrial Designers and draftsmen S/Shri S.P. Bansal, O.P. Aggarwal and A.N. Sharma deserve my thanks for having prepared most of the designs and drawings included in the volume.

I would also like to mention the contribution by the officers at our Headquarters and Small Industries Service Institutes who prepared a number of articles for this volume. I may particularly mention the names of S/Shri P.M. Mathai, M.K. Chitre, S. Raghaviah, A.R. Sen, Dr. Nau Nihal Singh Directors, and S/Shri O.P. Jain, Swarajya Prakash, B. Majumdar, K.V. Bansal, M.J. Paul, K.K. Mehan, Dr. G. Ramachandran, Dr. J.D. Varma, and Dr. B.M. Sedalia, Deputy Directors, S/Shri B. Dayal and P. Kalianpur, Industrial Designers, S/Shri P.V. Raju, M.G. Malpani, V. Sivaramakrishnan, Smt. Leela Nair and Shri B.K. Mahopatra, Assistant Directors of this Organisation.

To the large number of industrialists and businessmen who have so readily subscribed for advertisements in this Souvenir, I must convey my sincere thanks for their co-operation and positive encouragement to make this venture possible.

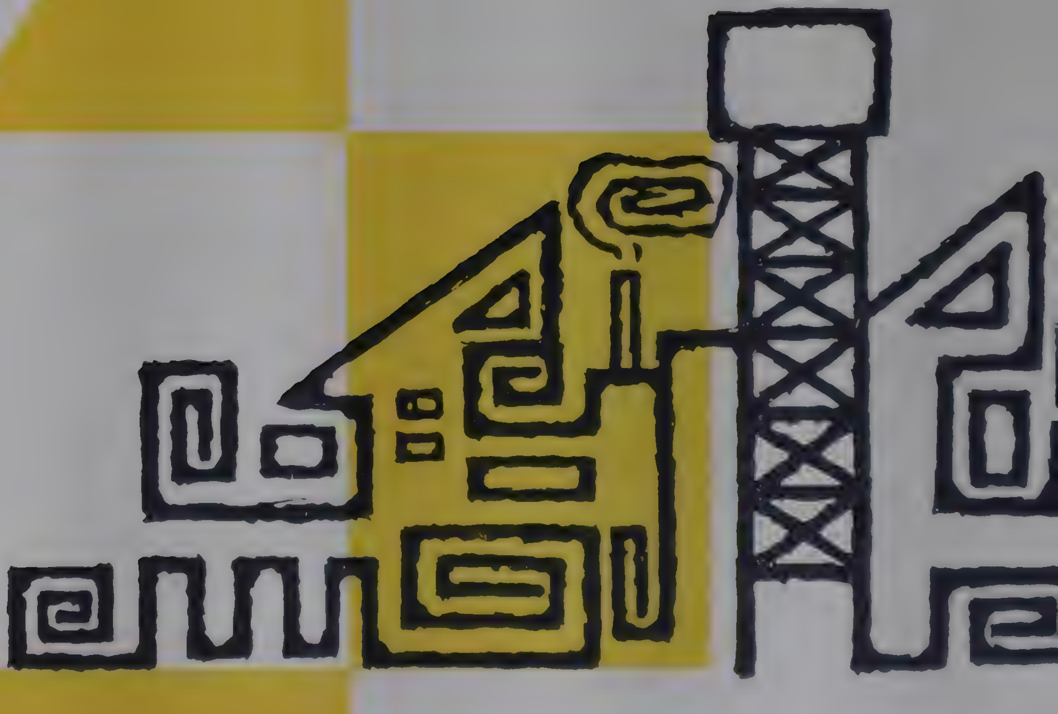
I will be failing in my duty if I do not make special mention of the prompt assistance rendered by the Office of the Chief Controller of Printing & Stationery, particularly, Shri N. Das Gupta, Deputy Controller, in all matters connected with the printing of this volume. Lastly, I want to sincerely thank the National Printing Works, Delhi for extending their wholehearted cooperation in bringing out this publication. I am particularly grateful to S/Shri J.M. D'Souza and T.K. Sen Gupta of the National Printing Works for their unstinted cooperation.

*New Delhi:*
25th January, 1971.

K. L. Nanjappa
*Development Commissioner, Small Scale Industries*

# SMALL SCALE INDUSTRIES

## DEVELOPMENT PERSPECTIVES



# ROLE OF PLANNING IN DEVELOPMENT OF SMALL INDUSTRIES IN INDIA

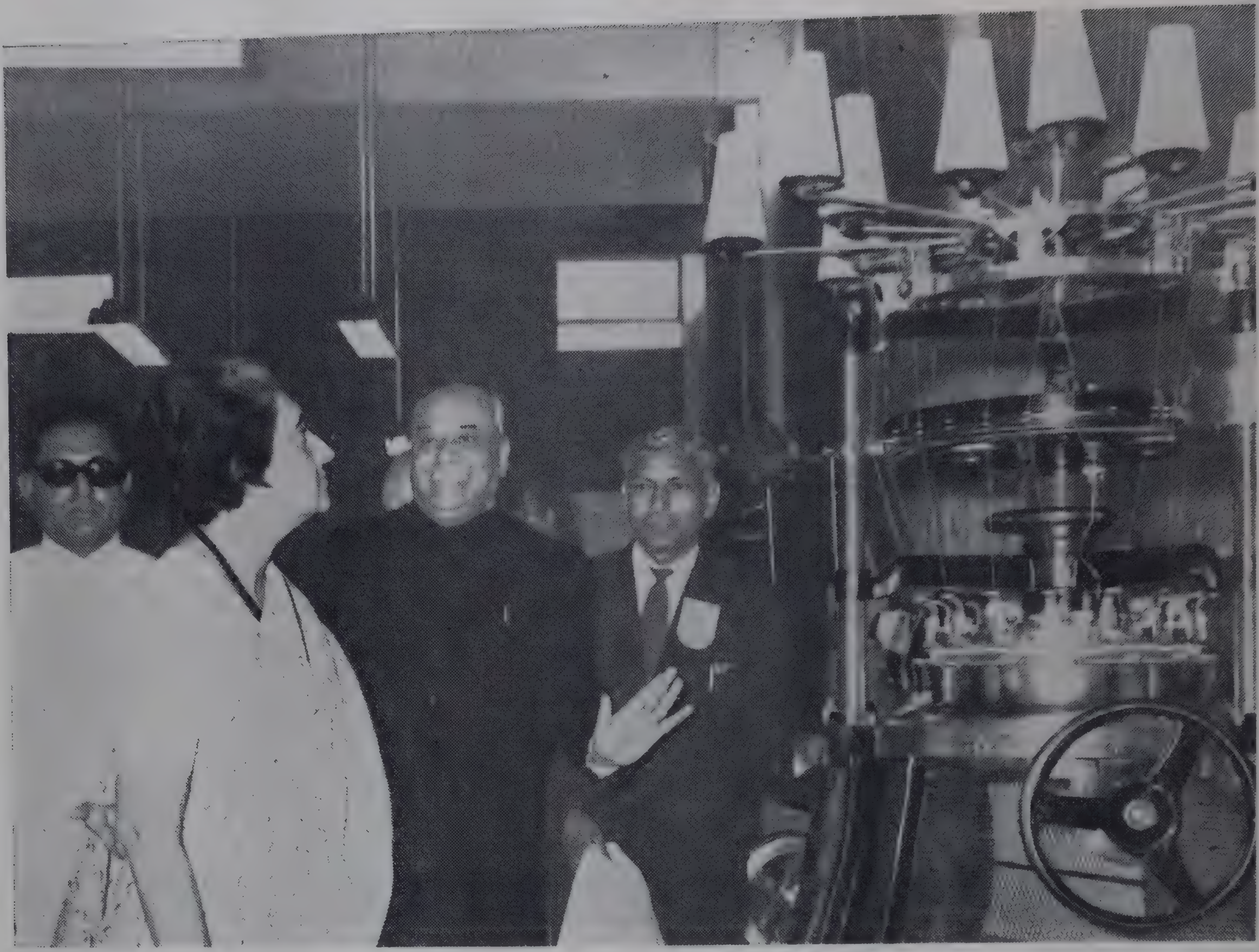
R. VENKATARAMAN

*Member, Planning Commission*
*New Delhi*

AFTER attaining political freedom, the urge for rapid economic development has become the foremost concern of the Governments of the developing countries including India. In their programmes of planned economic development, industrialisation occupies a central and pivotal position. This is because industrialisation and economic development have become so closely integrated with each other that economic growth or progress of a nation is often assessed in terms of measures of its success in transforming its agricultural economy into a modern industrial economy. However, irrespective of the development—primary or secondary—most developing countries have been confronted with a number of difficult policy issues or alternatives in deciding the pattern of industrial development, such as the priority to be accorded to basic and heavy industries vis-a-vis light and small industries and steps to be taken to ensure a co-ordinated and balanced development of industries of varying sizes, viz. large, small and cottage. Decisions on these and other connected issues depend largely on the social and political values as well as the objectives and methods of planning accepted by the people of a country. The course adopted in India may well be a guide to other developing countries.

In India, it was accepted early in the planning era that development of basic and heavy producers' goods industries was an essential pre-requisite for laying the foundation for rapid industrialisation and economic growth. Industries like iron and steel, heavy engineering, aluminium, machine building industries including castings and forgings, alloy and special steels, petroleum, basic chemicals, cement, intermediate goods, etc., provide the inputs for not only light and small industries but also other vital sectors of economy including agriculture, irrigation and power, transport and communications, etc. In fact, it is considered that establishment of these industries alone can bring about a self-reliant and self-generating economy. Most of these industries required large scale operations and high degree of mechanisation and, as such, are essentially capital-intensive. At the same time, however, it was also recognised early in the planning era that the choice in favour of these industries along with programmes for expansion of economic and social overheads like transport facilities, generation of power, health, education and social services would involve a severe strain on resources of capital and skill. Therefore, the consumer demand arising from increased expenditure on these sectors was planned to be met substantially by development of small industries, which, on the one hand, do not make heavy demand on scarce capital resources and, on the other hand, provide increasing employment opportunities.

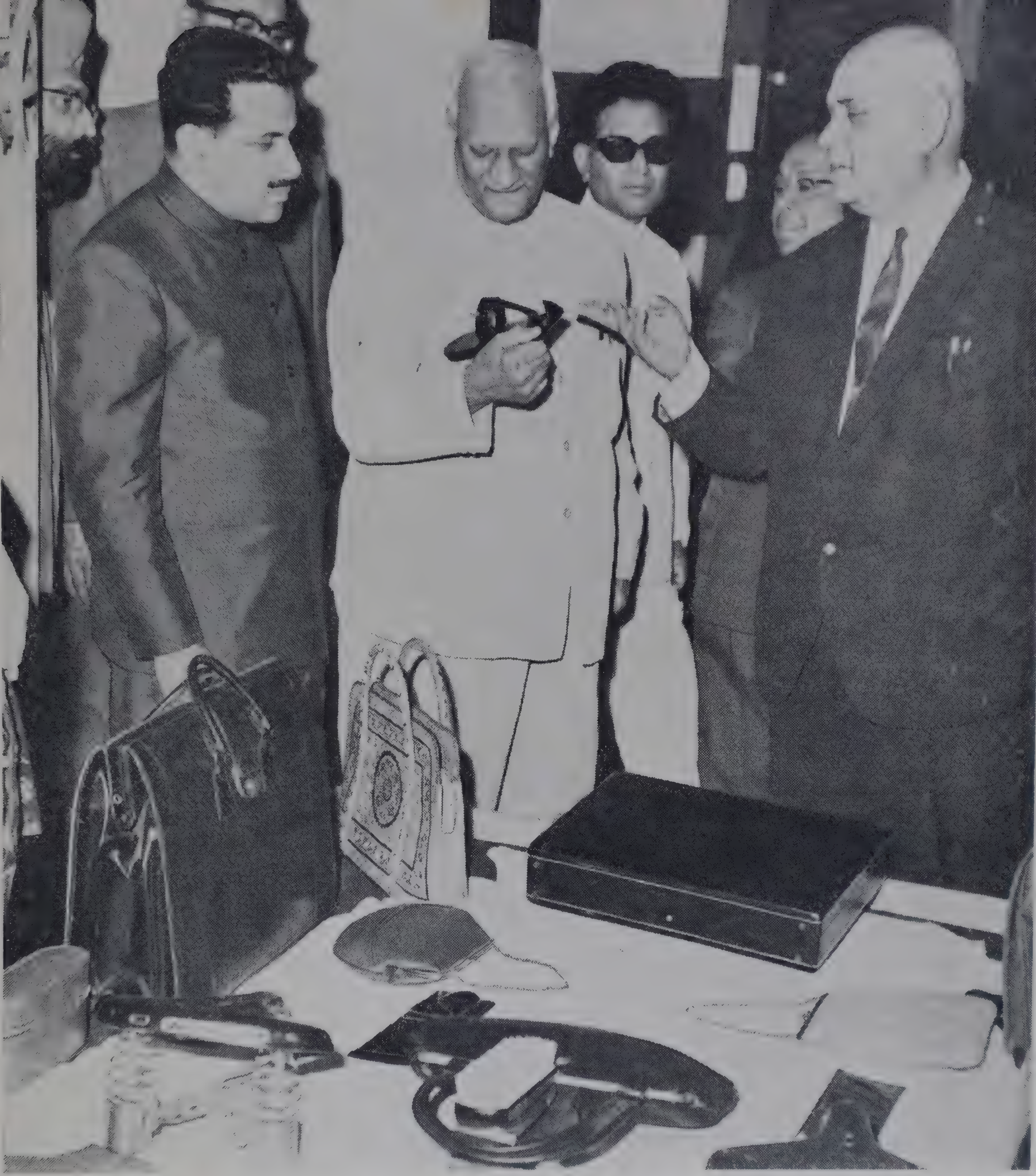
In a country like India with vast distances and a large potential market, there are other important reasons also which weigh in favour of development of small industries as well as decentralisation and dispersal of industries. Development of small industries facilitates effective mobilisation of resources of capital and skill particularly in the countryside, which might otherwise remain unutilised. These industries also offer a method of promotion of new entrepreneurs and of ensuring more equitable distribution of the national income. Besides, it is possible to economise on overhead capital expenditure on power, water, housing,



*Incredible, but true! Prime Minister Mrs. Indira Gandhi watching the working of a hosiery machine made entirely in the small scale sector in Ludhiana, exhibited at the UNCTAD-II held in New Delhi.*

etc. (which is essential for the urbanised industry and its labour force), through establishment of small units in semi-urban and suitable rural areas. Unlike large industries, establishment of small industries involve a relatively shorter gestation period and also lesser dependence on imported equipment and raw materials. These industries also help large industries by meeting their requirements of parts and components in the manufacture of which large size of operation or high degree of mechanisation has generally no pronounced impact on economics.

A major step taken for the development of different small industries during the First Five Year Plan period (1951-56) itself was the establishment of All India Boards to advise and assist in the formulation of programmes of development for modern small scale industries and also traditional industries including khadi (spinning and weaving of yarn and cloth by hand), handloom (hand weaving of cloth from yarn produced by mills), powerlooms, village industries, handicrafts, sericulture and coir. Except for khadi and village industries for which programmes were formulated and also implemented initially by the Board and, later on, by a Commission and the State Boards, the responsibility for the implementation of the development programmes in respect of all other small industries rested mostly with the State Governments, although for a few programmes the Boards functioned on behalf of the Central Government for purpose of implementation. Steps were also taken to strengthen the technical and other staff of the Departments of Industries of the State Governments and



*From a traditional exporter of tanned leather India is breaking new grounds in exporting finished leather & leather goods. President Shri V.V. Giri examines some of the finished leather goods at an exhibition put up by the SSIDO during the UNCTAD-II held in New Delhi.*

the Administration of Union Territories.

The common feature of the programmes for the development of these industries implemented mainly by the State Governments over the last three Five Year Plans and also undertaken now under the Fourth Five Year Plan, has been a provision of assistance in different forms like credit and training facilities, technical advice, quality marking, supply of improved tools on easy terms, establishment of industrial estates and common service facilities, etc. These have been supplemented by Central Programmes for industrial extension services, research, supply of machines on hire purchase terms and assistance to small units to participate in the Government Stores Purchase Programme. Progressively larger allocation of funds has been made for the development of these industries under the successive Five Year Plans. In addition, special schemes have been evolved by the credit and banking institutions to provide financial assistance to these industries under liberal terms and conditions.

**Common Production Programmes**

In order to facilitate a co-ordinated and balanced development of small and large sectors of different industries, the First Five Year Plan envisaged formulation of 'common production programmes.' The term 'common production programme' was used as a convenient way of expressing the desirability of accepting the respective contribution which large and small units could make towards the total requirements of the community and the measures which should be taken to enable small industries to fulfil the share assigned for them. The possible elements of a common production programme included (a) reservation of spheres of production, (b) non-expansion of the capacity of large scale industry, (c) imposition of a cess on large scale industry, (d) arrangements for the supply of raw materials, and (e) co-ordination for research, training, etc.

Common production programmes were intended mainly to prevent, as far as possible, increase in technological unemployment especially in traditional village industries and also to provide some time and opportunity to this sector to gain the necessary strength to develop on its own. Several devices were adopted to give effect to the idea such as providing a degree of preference or assurance of market, supply of scarce raw materials, technical guidance, financial assistance, etc. In other words, these devices represented only a part of the totality of action to be taken for the development of these industries. Thus, the programme was neither a "relief" programme nor one to stabilise the existing situation, but to make the best possible use of the existing equipment and know-how and to enable them to come up to a viable level.

Common production programme was adopted for the cotton textile industry during the First Five Year Plan period. Certain varieties of cloth were reserved for production by the handloom industry and certain restrictions were also placed on the expansion of the mill sector. An additional excise duty was levied on the production of a few specified varieties of cloth by large mills and the handloom industry was also given assistance in different forms so as to develop it on co-operative lines. In some other consumer goods industries like leather footwear and tanning, sports goods, furniture making, sewing machines, bicycles, storage batteries, etc., expansion of the capacity in the large scale sector was controlled so as to provide adequate room for the simultaneous growth of the small scale sector. This policy was generally enforced through the industrial licensing system. Except for the cotton textile industry, the common production programmes for other industries did not work quite satisfactorily, partly because a detailed programme could not be worked out and partly because the programmes tended to be merely "relief" programmes which did not provide adequately for research, supply of scarce materials, etc. Industries in which economies of scale are not particularly important, have been reserved for exclusive development in the small scale sector.

*Seminars and Technical Discussions play a significant role in the planning of a suitable strategy for sustained growth of the small scale sector. The picture shows Shri K.L. Nanjappa, Development Commissioner (SSI) addressing the guests at an 'At Home' organised in connection with the All India Seminar on the Development of Ancillary Industries which was held at Bangalore.*

**Development of Ancillary Industries**

With a view to bringing about a co-ordinated development of small and large industries, special efforts have been made for promotion of small ancillary industries for producing parts and components

*The SSIDO have a chain of Small Industries Service Institutes supported by a large number of Extension Centres spread all over the country to assist in the balanced development of small scale industries in a planned manner. Here, Shri K. Balachandran, Additional Secretary in the Ministry of ID & IT makes it a point to visit the workshop attached to the Extension Centre at Coimbatore when he inaugurated a Conference on Standardisation in the Pump Industry.*

required by large industries. While the assistance given to small scale industries in different forms is confined to units having fixed capital investment of less than Rs. 750,000 in plant and machinery (excluding land and buildings and irrespective of the number of persons employed), some of the aids and facilities have been extended to small ancillary units having fixed capital investment not exceeding Rs. 1,000,000 since such units require more costly equipment to manufacture precision components and parts. These facilities include industrial extension services, supply of machines on hire purchase terms and allotment of factory sheds in industrial estates. Besides appointing technical officers to work out the details of the parts and components which could suitably be produced in the small scale sector, some industrial undertakings in the public sector have been assisted to establish industrial estates for accommodating small ancillary units. Large scale enterprises in private sector have also been persuaded and assisted to farm out their requirements of parts and components to small scale enterprises. Other important steps taken for promotion of ancillary industries include organisation of exhibitions and seminars.

### Review of Progress

As a result of the organisational and policy measures taken so far and implementation of the development programmes over the last two decades, the small industries sector has made significant contribution in realising some of the objectives of expanded employment and larger production and exports of the items produced by these industries. The handloom industry provides employment to nearly 3 million weavers. The khadi industry provides mostly part-time employment to nearly 1.34 million persons, including about 1.2 million spinners. The number of persons to whom sericulture provides part-time employment is estimated at 3 million. The coir industry is estimated to provide employment to over 0.8 million persons.

Some idea of the growth of the traditional industries can be had from the following figures relating to production and exports.

| | *1960-61* | *1968-69* |
|---|---|---|
| **Handloom & Powerloom** | | |
| production of cloth* (million metres) | 2,013 | 3,538 |
| exports* of handloom fabrics and manufactures (Rs. million) | 50 | 82 |
| **Khadi** | | |
| production of cloth (million sq. metres) | 54 | 66 |
| **Handicrafts** | | |
| exports (Rs. million) | 193.4 | 765.0 |
| **Silk** | | |
| production of raw silk* (million kgs.) | 1.49 | 2.32 |
| exports of fabrics and waste* (Rs. million) | 13.7 | 59.7 |
| **Coir Products** | | |
| exports (Rs. million) | 87.0 | 145.0 |

*Figures relate to calendar years 1960 and 1968

The growth of modern small scale industries has taken place largely over the last decade. Upto 1969-70, about 178,000 small scale units had been registered on a voluntary basis with the State Directorates of Industries, as compared to about 36,000 units at the beginning of 1962. About 346 industrial estates had been completed by the end of March, 1969, as compared to 66 estates in 1960-61. Of about

*Training courses are conducted by the SISIs to train workers in various fields of activity so that the work could go on in planned manner. One such course on Hazards in the Dye-stuff Industries was organised by the Bombay Institute, of which a general view is given here.*

8,670 sheds provided in these estates, about 6,600 sheds had been occupied and the small units set up in these sheds provided employment to about 82,700 persons. Their annual production amounted to Rs. 992.5 millions.

Apart from quantitative growth, threre has been significant improvement in the quality of the products of many small scale industries. This is reflected in the increased variety of items produced to the standards and specifications prescribed by the Defence Services, Railways and several large scale industries. A number of small scale units supply parts and components to large industries engaged in the manufacture of machine tools, sewing machines, bicycles, tractors, automobiles, coach building and other railway equipment, and electronic and electrical appliances and machinery. Products of some of these industries are exported. Production of a number of new items, parts and components requiring high technology and precision has been successfully undertaken in the small scale sector; some of them were being imported till recently.

**Fourth Plan**

The main objectives of the programmes for the development of these industries in the Fourth Plan are:

(i) to improve progressively the production techniques of these industries so as to enable them to produce quality goods and to bring them to a viable level;
(ii) to promote decentralisation and dispersal of industries; and
(iii) to promote agro-based industries.

In order to achieve these aims, it would be necessary to improve skills and provide a combination of incentives and disincentives for securing decentralisation and dispersal of small industries. Fiscal and other measures are required to enable these industries to stand competition with large industries. The operation of the industrial licensing system has not been effective in preventing competition from the large industries and in providing the required degree of initial protection. Nor has it been possible to prevent concentration of industries in large cities and towns. Since a large number of industries is proposed to be delicensed during the Fourth Plan period, greater emphasis will have to be placed on a variety of positive measures of assistance including liberal credit facilities, adequate supply of scarce raw materials, provision of technical assistance and improved appliances, tax concessions and differential excise duties. It will be necessary to assist mechanised small scale industries to grow into larger and more viable units. Further, in order to protect small scale and traditional industries from undue competition, the existing reservations will be continued and modified in accordance with the requirements. This will be preceded by careful identification of industries, parts, components and processes in which the large size of operation or a high degree of mechanisation has no pronounced impact on economics. This identification would be followed by fiscal and credit policies and measures to accelerate their develoment in the small sector, evolution of appropriate technology for smaller units in different industries, introduction of quality control and formulation of well-coordinated programmes of assistance. Outside the designated field for small industries, the small and large industrial sectors would be developed, wherever possible, as complementary to each other so as to facilitate growth of small ancillary industries as feeder units to large ones and processing units for utilising the products of large industries.

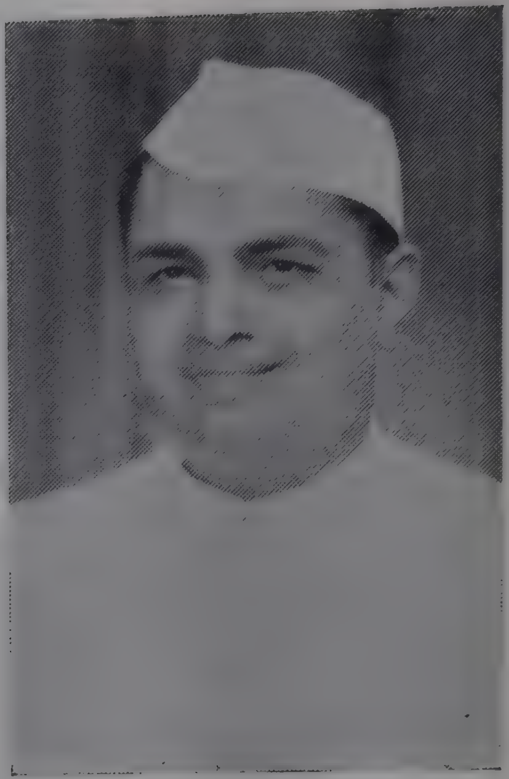
Efforts will be continued to collect and disseminate information about the parts and components in demand by large units and to encourage large industries in the public and private sectors to obtain their requirements to the maximum possible extent from small units. As regards large industrial undertakings in the public and private sectors, project reports and applications will be scrutinised carefully with a view to excluding from their capacity the items capable of being produced in the small sector. Measures would also be taken for the development of small industries and also medium scale industries in selected backward areas. It has been decided that financial and credit institutions should provide certain general concessions for financing these industries in selected backward areas of all the States and Union Territories. In addition, it has also been decided that the Central Government would subsidise the establishment of industrial units in selected backward areas to the extent of one-tenth of the total cost for projects upto Rs. 5 million; this subsidy will be available to two districts in each of nine selected States and one selected district in each of the remaining States and Union Territories.

With the implementation of the development programmes envisaged under the Fourth Plan, these industries are expected to become progressively self-supporting. These industries would also accelerate the production of a large variety of consumer goods and simple producers' goods of quality, generate additional employment opportunities and also stimulate faster growth of skills and entrepreneurial talents. Effective implementation of the programmes is expected to bring about a wide-spread diffusion of industrial activity and increasingly larger prosperity.

*Our Country is big and you will find that it has developed a lot during the last few years.*
*I am confident that the Contribution of Small Scale Industries in this development is significant.*
*I hope this progress will increase further in the time to come.*

—Jawaharlal Nehru

# INDIA'S PARTICIPATION IN AFRO-ASIAN INDUSTRIAL DEVELOPMENT



R.A. PATIL

*Minister for Industries, Govt. of Maharashtra*

THE first Afro-Asian conference laid emphasis on the need for co-operation between the developing nations, so as to improve their economy by mutual co-operation and understanding. The conference surveyed the present position and embarked upon a positive action-oriented programme so that this may be achieved. Holding of the Second Afro-Asian conference in India is a direct result of this action. It is, in this context, necessary to review the industrial development from time to time and take advantage to improve the rate of growth of economy of the developing nations.

The developed nations already have a large industrial base, a highly organised entrepreneurial system and a well-defined course of overall economic activities. The balance of payment position is also very favourable for these nations to adopt social security measures, massive defence production programmes and central guidance on the basis of an overall planned strategy, which further aid their economic growth. The developing countries in Asia and Africa have achieved political independence very recently and have formulated programmes of economic development which have, of necessity, to be, to begin with, for providing bare necessities of life to the famished societies living in many cases only a subsistence level. The developing countries have neither the capital nor the savings nor technology to support a high rate of industrialisation. The savings which could be channelised to productive investment would also, therefore, be small and hence, risk capital scarce. It becomes the responsibility of the Governments of these countries to provide opportunities to lay the foundations for a sound agricultural base and make available capital goods on which industries can be established.

India started on its road to development after independence and had taken the task seriously for the last 15 years through its Five Year Plans. What India had achieved in the first two Five Year Plans was an increase in national income by 45 per cent with a subsequent increase in per capita income of about 2.4 percent per annum. The Third Plan, therefore, laid the emphasis on much-needed import of capital equipment for production and special emphasis on machine building industry, so that a strong capital base for expanding the industry could be obtained. The last decade, however, turned out to be a very difficult one due to such factors as two border conflicts, two severe droughts that occurred in the period which created imbalances in the economy. Prices rose sharply and inflationary pressure was felt all over the economy. The agricultural output fell which, in turn, adversely affected industrial output. The balance of payment position became adverse and rupee had to be devalued. This was followed by the tremendous recession.

Fortunately, the country has turned the corner, thanks to the improvement in agriculture. A heroic effort was made at regaining of export market, *The manufacture of sophisticated items of proven quality has made even the manufacturers of the highly industrialised countries like Japan to sit up and take notice of the small scale industries in India. Result, trade enquiries totalling over Rs. 58 crores. Here, Japanese manufacturers are being briefed about the competence and capacity of the Indian small entrepreneurs by a senior officer of the SSIDO on the occasion of the EXPO-70 at Osaka.*

widening and diversification of industrial base and stabilisation of price level internally. It is encouraging to note, that during the last 8 to 9 years, production of basic industries increased two-folds, that of capital goods industries more than doubled, intermediate goods/products increased more than 50 percent and consumer goods more than 40 percent.

For sustaining this growth, it is necessary to broaden the base of industrial structure. In developing countries, the problem of industrial planning is more complex and more important. The major problem is of shortage of savings and basic capital, particularly, risk capital, making it imperative for the State to formulate constant and balanced strategy of development. It is known by general experience that the rate of investment in developing countries cannot rise beyond 10 to 15 percent. In the last decade, the rate of investment was 10 to 15 percent in India, Ceylon, Philippines, Chile, Mexico and other developing countries. Such low rate of development cannot provide sufficient resources for industrial planning. Foreign aid, loans and improvement of balance of payment is thus necessary. The noted World Bank authority's report presented by Mr. Lester Pierson, President of the U.N. General Assembly has highlighted the great contribution which developed countries can make to the development of developing countries by appropriate policies in the fields of their trade and aid. However, the kind of response that has been received by developed countries, in this context, is far from encouraging. The developed countries, in recent times, at least, appear to be in no mood to make substantial contributions to the economic growth of the developing countries by permitting increase in the growth of foreign trade. It is in this context that mutual efforts between the developing countries for increase in the mutual trade are necessary to bring forth a rapid development of their economies.

India has luckily gone through this ordeal already, and is now poised for taking a great lead forward. The country has learned the techniques of providing the basic pre-requisites for industrialisation and has already invested risk capital in heavy industries, having long gestation periods. These industries which are directly controlled by the Government are in fact expected to stimulate the growth of a large number of small scale industries and thus pave the way for over-all industrial growth. Establishment of industrial estates, provision of land, equipment, raw materials and power and other facilities at concessional rates to the small scale entrepreneurs, reservation of certain industries for development in the small scale sector, and all-out encouragement now being given to the growth of even medium industries in under-developed areas are common features of development in almost all the States in India. This policy has paid rich dividends in the sense that there are in India today, more than 150,000 registered small scale enterprises whereas a couple of decades ago industries beyond a few well-known industrial houses were unknown.

Many countries in Africa and Asia have not yet crossed the difficult period as India has. India is, therefore, today in a position to help these countries through the experience she has gained from the experiments in economic planning and development technology. India has passed the first stage of acquaintance with modern technology. It has also passed through the stage of absorption and assimilation of modern technology and is passing through the stage of adoption of the modern technology. India

*The phenomenal growth of small scale industries in India has given a new hope to its neighbours in the Afro-Asian region. Recently a delegation sponsored by the Government of Iran visited India to make a study of the achievements made by small industries. Here, the members of the Iranian Delegation are seen with the Director of the local Small Industries Service Institute, Shri D.N. Dey, when the delegation visited Ahmedabad.*

can, therefore, offer to these developing nations the know-how it has gained in planning and establishing industrial estates and areas suitable for setting up various industries. Institutional financing of small and medium enterprises, measures for attracting and inducing the technician-entrepreneurs to venture into new lines of industrial production are also some of the fields in which India has sufficient expertise. In the exhibition that is being arranged in connection with the Afro-Asian conference, a large number of products manufactured by the small and medium industries in this country will be exhibited. The exhibition will highlight the diversified nature of industrial production which India has achieved and what India can offer to the developing countries, by way of trade as well as extension of technical assistance.

India, today, is in a position to collaborate and set up joint industrial ventures in developing countries. As various developing countries are at different levels of development, joint venture in specific industries can become the first step towards such co-operation. Advantages such as widening market for export of manufactured and semi-manufactured goods including machinery and spare parts, building materials and adoption of modern technical know-how can improve the economy of these developing countries. This mutual collaboration need not be restricted to large sector alone. Many small and medium scale industries in India today are also in a position to offer these facilities to the developing countries. Industries have already been established as joint ventures in such diversified fields as pharmaceuticals, printing inks, fluorescent lamps and accessories, manufacture of glass products, P.V.C. leather cloth, concentrates for soft drinks, rubber products, resins etc. in collaboration with Indian small scale industries. The field offers vast scope for strengthening trade and industrial links between India and other developing countries.

Another field in which India can make effective contribution is in training technicians and administrators for taking up the task of planning and organizing industrial development. Indian administrators, technologists, industrialists, businessmen, managers, and technicians are second to none in intelligence and skill. The vastly transformed society in India today is a visible proof of the same. Indian industry and trade have been guided by able administrators, capable technologists and skilled technicians and managers who can deal with the problems of economic development of developing countries with confidence. In the planning and implementation of projects like new railway systems, building of bridges, laying of pipe lines and roads, erection of plants for the manufacture of textile, sugar, paper, cement and chemicals, electric power generating, transmission and distribution etc., Indian engineers have already assisted many Afro-Asian countries. This effort can be extended to the advantage of other less developed nations also. Training programmes in India for the future participants in these plants, in organisations established both in India as well as in countries in which they are to be established, can be planned with Indian technical know-how.

Another way of useful collaboration would be to float tri-partite international firms with technologically advanced enterprises in developed countries, those of intermediate technology like Indian firms and firms in less developed countries who want to put up these industrial ventures for economic development. Such establishments can attract foreign investment, promote international understanding and establish very cordial relations amongst the galaxy of nations who would put the Afro-Asian developing countries on the road to a better and more prosperous society and bring about harmonious relationship between the developed and developing countries.

By achieving these objectives only, the purpose for which the Afro-Asian conference is being held will be best served.

"*Much of the resistance which under-developed nations offer to technical change stems from a fear that modernization will destroy the old culture, as in fact it will. Actually, many of the leaders of under-developed countries seem to be ambivalent about modernization. Caught in a conflict between cultural goals and other goals they want somehow to wish away the conflict and achieve both sets of goals at once*".

—A Political Scientist

# SMALL SCALE INDUSTRY —ITS PROBLEMS AND PROSPECTS

JASHVANT MEHTA

*Former Finance & Industries Minister, Gujarat*

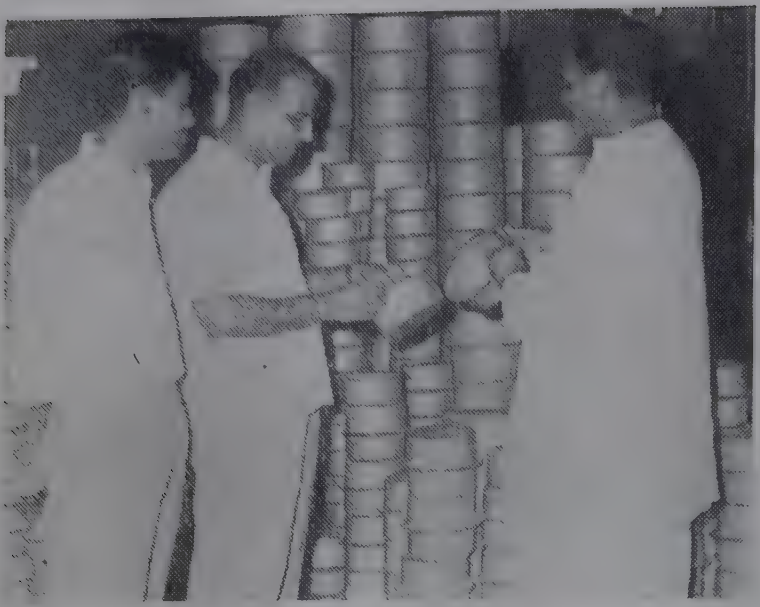
THE conquest of poverty cannot come through one or two quick and simple lines of action involving small number of people, but through a longer and more complex process of action involving all the people of a country. Every limb of a country's economy must produce more, all its natural and its human resources must be developed to the full. To change a tradition-bound society into a dynamic one attuned to modern technology was, and is, a tremendous task and to achieve this through peaceful and democratic means makes the task even more difficult. India has chosen to bring about socio-economic transformation through democratic and peaceful means. The process of economic development whether in the Capitalist or Communist countries, whether in the past or in the present, corroborates the thesis that the crucial stages of industrialisation associated with the take-off from pre-development stage to development appear to be inevitably linked with the absence of democratic freedom. But in India, the political revolution has already taken place and the extension of democratic freedom to the common man has already materialized. "But the industrial revolution is still in gestation and has not yet reached the take-off stage. Politico-economic history seems to be reversing itself in India and an attempt is being made to reconcile freedom with development." Although it may not be possible to achieve spectacular progress in the initial stage of economic development through such means, India believes that by conserving social unity and building upon principles of freedom, the change would be more fundamental and more enduring.

There is a belief that economic development leads inexorably towards large scale industry. Actual development does not, however, corroborate this thesis. The technological possibilities of Small Scale Sector remain as yet largely unexplored. Large scale industries have tended to predominate in the industrially developed countries, "sometimes because they are inherently most efficient, and sometimes because men's attention has been directed to the economics of size, rather than trying to get the highest efficiency from small units". As Dr. A.E. Morgan interestingly observes, "Big industry makes the top man seem bigger, just as a king who conquers another country and adds it to his own is looked at as a bigger king, regardless of whether the conquered country is better governed than before. We have little idea what the results might have been if equal attention had been given to making small size efficient". A large unit has often commercial, as distinct from technological, advantages. It has advantages, for example, in obtaining credit, in buying inputs and selling its products in the market. Small scale units could compete favourably with the large scale units if they are assisted by supporting institutions, such as co-operatives and other specialised agencies, to offer them such facilities of credit, marketing and research which large units enjoy by virtue of their size. The experience of Japan lends support to this viewpoint. "What lends distinction to the case of Japan is that what was achieved in that country was not merely a revival of traditional cottage industry about which so much is heard in some of the poorer countries with an

*AND TV TOO ! What is normally not possible for one small entrepreneur is made easy by a number of them by pooling their resources to manufacture highly sophisticated items like the Television Receiver. Here, the Union Minister of Industrial Development & Internal Trade, Shri Dinesh Singh is being explained the special features of a 23" TV Receiver manufactured by a consortium of small industrialists in Delhi.*

old civilisation, but an adaptation of small scale industry to the production of those new commodities which an industrial society requires." An interesting contrast lies here between the experience of Japan and that of India. "Factory enterprise developed more rapidly in Japan than in India after 1900; but it appears to have been much less destructive of cottage and workshop industry. To a far greater degree the Japanese succeeded in modernising the production techniques of the small establishment." As E.P. Reubens observes, "In the technological operation alone, the Japanese have shown themselves very ingenious at adapting their system of small scale production to the lines in which they have special advantages....many a small shop found that the operation of a single machine unit could be at least as efficient as the operation of a long line of such units, if there was not concatenation between them". But the system that developed in Japan resembled in many respects the "putting out" system developed in Western Europe before the Industrial Revolution. In a modern economy, small scale industries can hardly serve as a vital limb of the economy unless they are supported by co-operative institutions and financial agencies which could take charge of their commercial and financial problems and feed them with a continuous flow of knowledge through research. Small scale industry has to play a vital role in the socio-economic transformation of an over-populated under-developed country like India.

A factor favouring the small scale units of production is the territorial immobility of labour. It has long been stressed by economists that within an under-developed country labour tends to be far less mobile than capital. This is true even of the industrially advanced countries like Britain and USSR. So long as the transport of raw materials posed the main difficulty, labour as well as capital had to be moved to the sources of raw materials, particularly, of coal and iron. A student of Economic History will not minimise the hardship to labour caused by this process. "In England, the enclosure movement, and a whole range of inhuman legislation combined to keep up a sufficient supply of labour at the crucial



*Standardisation & Quality Control is one of the major problems staring in the face of small industrialists who have to compete with the products manufactured by large scale enterprises. The officers of the Institute at Ahmedabad inspecting the products of an aluminium utensil manufacturing unit at Udhna.*

industrial centres." In the USSR, a series of compulsions had to be resorted to, to the same end. It is very doubtful whether such compulsions could be adopted in a country like India which has chosen to accelerate the rate of economic development through democratic and peaceful means. The small scale industries should be more widely and judiciously dispersed so that such hardship to labour could be avoided.

Further, small scale industry will make possible a more adequate utilisation of the surplus agricultural labour in an over-populated under-developed country like India. About 70% of India's population to-day depends on agriculture as compared to only 44% in Italy or Japan or about 15% or less in the U.S. and West Germany. Land is already scarce and there is too little to provide enough work in agriculture alone for India's rapidly growing labour force. Under-employment and unemployment are on the increase in India, a characteristic sign of "Vicious circle of poverty". "In countries like India, there seems to exist a considerable fund of local and traditional skill which, with minor adaptation, can still be utilised under modern conditions. In all such cases, it is a waste of resources to try to fit the artisan to an entirely new environment in which his inherited skill is of no value at all. But if such waste is to be avoided, care has to be taken to allow new forms of industrial organisation to evolve out of the old mostly perhaps, where they had been before."

Small scale production economises two scarce factors viz. capital and supervisory skill. Capital is very scarce in under-developed countries and so those which have abundant supply of labour should follow labour-intensive method of production rather than capital-intensive. Factory production calls for a great deal of supervisory skill which is very scarce in economically backward countries.

This leads to the next question of mobilising rural savings. In under-developed countries, the question of mopping up domestic savings naturally claims first attention. Dispersal of small scale units over the countryside will encourage habits of investment in rural areas. This is of particular importance in economically under-developed countries like India where rapid economic development is hardly possible, unless methods can be found for coaxing rural savings. This can be done in several ways. In Japan, in the early years of economic development, the Government mopped up the rural savings through the land tax. Thus Lockwood points out, "Heavy farm taxation provided the chief means through which the Meiji Governments financed their heavy military outlays and development programmes through the dearly decades. The tax is said to have appropriated 33 per cent of the total crop at the outset. It provided 94 per cent of the Government's tax revenue at this time and over one-half until almost the turn of the century." Paul Baran expresses himself in even stronger language: "It is, thus, no exaggeration to say that the main source of primary accumulation of capital in Japan was the village which in the course of its entire modern History played for Japanese Capitalism the role of an internal colony." Russia has collected compulsory levies from the peasantry. But such methods cannot be adopted in a country like India which has declared to accelerate the rate of industrialisation through democratic means. Therefore the best way will be to spread investment opportunities all over the country in such a manner that reliance on forced mobilisation of rural savings is minimised and an environment is created in which farmers develop spontaneous habit of investment.

The development of small scale industry has been assigned the place of pride in our industrialisation programmes. Considerable efforts have been made both by the Central and State Governments to promote and develop small industries and but for the steps taken, this vital sector would have never registered the growth observed to-day. However, taking into consideration the immense potentialities of this sector, the difficulties and handicaps faced by them and the wide gulf between their requirements and the assistance provided certainly call for a reappraisal of the Government policies, the functioning of various agencies and administrative procedures adopted to-day.

The Industrial Policy Resolution in 1956 stressed clearly the role of small scale sector for achieving socio-economic objectives of the nation. However, since the concept of the small scale sector has undergone considerable change and as greater reliance is being placed on the development of this sector as a potent measure for solving the burning problem of regional imbalance, the necessity of re-emphasising the role of this sector in our industrial policy is by and large justified.

It may be recalled that as far back as in 1956, a Committee under the Chairmanship of Prof. D.G. Karve had recommended, among other measures, the reservation of certain fields of production like most of the consumer goods for the small scale sector. The recommendation remains to be implemented fully. Besides, there are a number of fields like production of sophisticated equipment and machineries, certain precision instruments, textile accessories, automobile ancillaries etc., which call for expansion of the field of reservation for this sector.

In this context, it may also be necessary to review the policies with regard to industrial licensing so as to be used as an effective tool for judiciously promoting the growth of this sector. The adverse effects likely to emerge as a result of de-licensing have to be taken into account and large and medium units though delicensed, should not be allowed to expand, diversify at the cost of the small scale sector. Even while considering applications for industrial licences, the opinion of the small scale units likely to be affected should also be taken into consideration. Small scale units should also be represented on the Development Councils appointed for different commodities. The development of ancillaries is an important aspect of industrial growth and though the principle of development of small feeder units has been accepted, it is not strictly followed and implemented. It is, therefore, absolutely necessary and vital that while licensing large industrial units due care should be taken to exclude capacities of components, parts etc., which can be produced by small firms.

*And here is a seasoning oven being inspected by the Director of the SISI, Ludhiana.*

The problem of finance for this sector should receive the attention of the Government and the financial agencies. The Financial Institutions have not come forward in a big way so far to assist this sector. Out of the total bank advances of Rs. 31,000 million, the share of this sector comes to only Rs. 2,090 million representing hardly 10% of the total industrial advances. Performance of the various State Finance Corporation in this field leaves much to be desired. They have belied the expectation reposed in them. During 1966, the State Finance Corporations had assisted only 2,796 units as against the total number of 125,000 units registered with the various Directorates of Industries. It is, thus, clear that the bulk of these units could not get the credit facilities from the organised money market.

The total financial requirements during the Fourth Five Year Plan period is estimated to be of the order of Rs. 560 million for fixed assets. To meet the requirements is going to be a formidable task. Moreover, the State Finance Corporation Acts stipulate that the advance has to be made with some margin and against tangible assets. The outlook of the advancing agencies has to undergo a change so that integrity, reputation and the viability of the unit is given due consideration without insisting on definite margins and tangible assets. This suggestion should be examined and at least a beginning can be made by reducing the margin and advancing the quantum of loan equal in value to the assets offered as security.

In spite of the fact that 14 major banks have been nationalised, there does not seem to be any appreciable change in the outlook of the advancing agencies. The rigidity adopted hitherto has not been given away so far. The small units are facing difficulties in procuring working capital from these nationalised banks. No doubt some interest is being shown by some other commercial agencies. The reluctance on the part of the banks to advance loans to the small firms is possibly based on the assumption that such investment is riskier. Since the banks have not so far been able to meet the financial requirements of this sector, it is absolutely necessary that during the transitory stage at least the Finance Corporations should come forward in a big way to assist these units.

Central Government has decided to liberalise the rules for allocating raw materials to small scale units. They have decided to allocate raw materials to the small scale industries on the basis of the production capacity instead of the value of machinery installed in each unit. The small scale sector itself has been demanding parity with the large scale sector on the allocation of raw materials, arguing that it contributes 40% of the total industrial production of the country. Although this sector accounts for nearly 40% of the industrial output, ironically enough, much of their capacity is lying idle for want of sufficient inputs. A low level of technology, poor management, low productivity and lack of adequate quality control are also partly responsible for their woes. But inequalities in the distribution of raw materials, as a visiting team of experts had pointed out as far back as in 1962, more than neutralise all types of assistance which the Government renders to them to overcome their other handicaps. For several years now, one of their persistent complaints has been that import control procedures are blatantly discriminatory. While the small-scale sector is allowed to import raw materials only on the basis of its past performance, the criterion applied in the case of the large scale sector is established capacity. Though the same yardstick would be used hereafter for the small scale sector as well, the Government has refrained from putting them even now entirely on par with those in the large scale sector. The decision announced by the Government still falls short of the demand in as much as allocation of raw materials to the large firms is made on the basis of two to three shifts a day and not one shift on which assessment will be made in case of the small firms. Presumably the Government fears that small producers are more prone than the big ones to divert their supplies of scarce raw materials to the black market. Recent surveys have, however, revealed that the record of the large firms is in no way better in this respect and that in many cases the producers in either sector have no option but to buy raw materials at inflated prices. What is worse, when he does eventually get his quota, he is obliged to sell it to the same market in order to recoup his initial losses. We find a welcome shift in the recently announced policy of the Government. The Union Govt. has at last decided to farm out to the small scale sector production of ancillaries needed for the small car and scooter, both to be manufactured in the public sector.

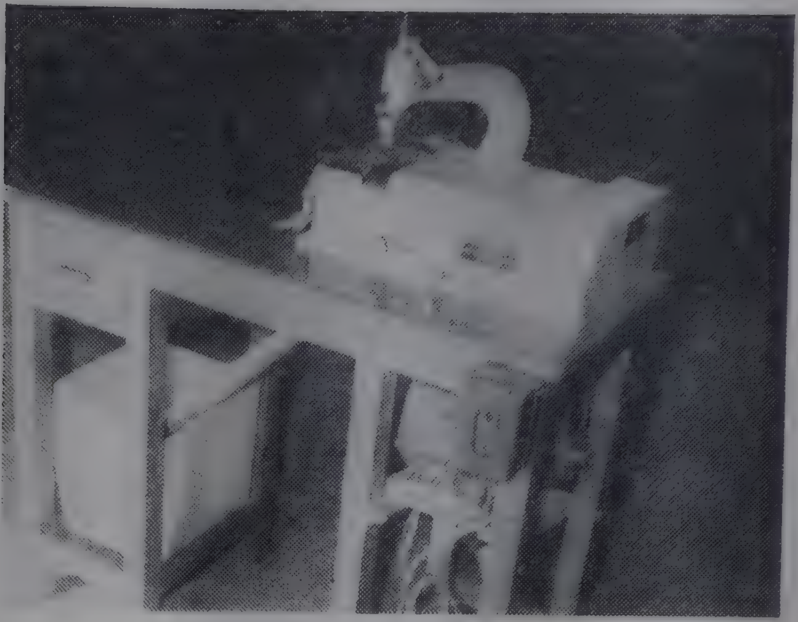
The requirements of raw materials for the small scale sector should be clubbed and imported through suitable state agencies such as STC, MMTC and the State Small Industries Corporations etc. The feature of the new policy for 1970-71 that will attract widest attention is, of course, the canalising of the import of 38 more items through such agencies in addition to the 22 items already taken over earlier. However, there is a persistent complaint about high prices of the materials imported through such agencies and serious thought should be given to this aspect of the problem. The over-all position of the small scale units in the country in the matter of imported raw materials has deteriorated as can be seen from the figures of import licences issued from year to year (Table I). Similarly, the allocation of scarce items of iron and steel has been progressively reduced in case of small scale units while the allocation for the D.G.T.D. units has been increasing as can be seen from the figures given in Table II.

**TABLE I**

| Year | (Rs. million) |
|---|---|
| 1966-67 | 790.9 |
| 1967-68 | 490.7 |
| 1968-69 | 367.2 |

**TABLE II**

| Year | DGTD Units | SSI Units |
|---|---|---|
| 1966-67 | 64,000 M.T. | 54,700 M.T. |
| 1967-68 | 99,628 M.T. | 41,594 M.T. |
| 1968-69 | 73,408 M.T. | 19,826 M.T. |
| 1969-70 | 71,057 M.T. | 20,626 M.T. |



*Designing and fabricating special purpose machines is one way of solving the problems faced by the small entrepreneur in as much as it assists him in the mechanisation of the manufacturing process, thereby increasing efficiency and production. Here is skiving knife for shoe uppers developed by the Small Industries Service Institute, Calcutta.*

A major difficulty faced by this sector is with regard to reduced values of import entitlement on account of bifurcation. Licences are issued to them in two currencies viz. free currency and U.S. Aid Credit. Licences below the limit of Rs. 82,400 are not issued under U.S. Aid Credit while it is difficult for small scale units to get their materials from the rupee payment area. Since the conversion of R.P.A. or U.S. Aid licences into free currency is also not allowed unless the Government streamlines the existing procedures for the issuing of licences and permits and finds a way of reaching both the indigenous and imported supplies expeditiously to the actual users, the flourishing black market in industrial raw materials cannot be eliminated.

The prospect of small scale industry depends upon improvement of its techniques. The experience of Japan illustrates this point. "Often the tools in use have not changed for centuries and it is possible to improve them without altering the basic skills required by the craftsman". The efficiency and the prospect of small scale industry are much enhanced if some agencies are entrusted with the task of improving tools and equipment and techniques and feed them with new knowledge through research. Improvements in technique are not necessarily confined to equipment; the craftsman can be introduced to better materials. The use of electric power has revolutionised the concept of small scale industry. But unfortunately in most under-developed countries it is very difficult to carry electricity to many villages. In the field of marketing and finance, Indonesia has achieved the best results by creating agencies for the purpose. "Indonesia has excelled in reorganising old trades, but Japan has excelled in organising new trades on a cottage industry basis without, indeed, the Government having much to do with the matter". In Japan, "the putting out" system seems to have taken firm root, "Private merchants supplying materials to craftsmen to be worked up at their homes or in small workshops. The system is specially famous for its extension into trades where a commodity has to take in several parts." Thus, many commodities are being produced by Japanese craftsmen today which were totally unknown to their forefathers. As Arthur Lewis observes, "The survival of small scale production depends upon continuous enterprise..........., bringing new commodities within the range of the system, for small scale industry must contract if it depends only upon age-old products, since most of these will disappear into factories sooner or later".

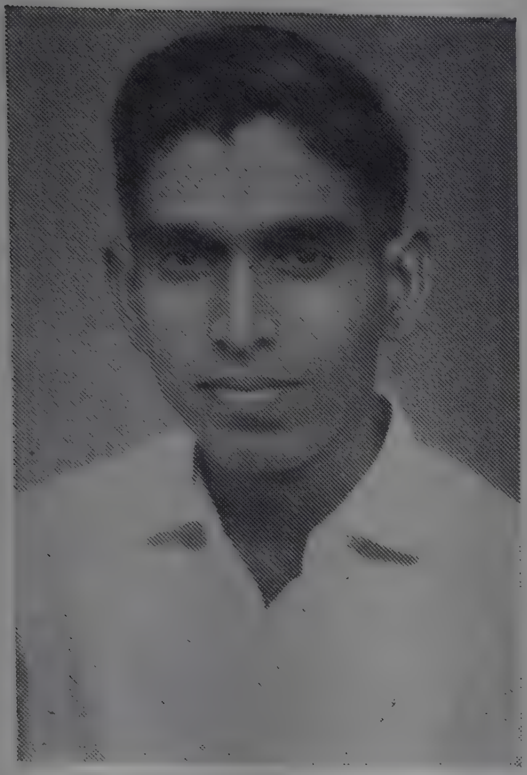
In India, small scale industries including traditional handicraft industries are a vital part of the economy. The last decade has witnessed considerable development of this sector as a result of direct and deliberate stimulation by Government, and of the rising demand for goods of all kinds in a rapidly growing economy. Small Industries Service Institutes have been set up in the States in order to assist this sector in the process of modernisation. But their efforts still fall short of expectation. The entire problem of improvement of techniques could be studied by appointing a Committee of experts and the recommendations of the Committee with regard to modernisation should be implemented.

With limited resources, it is very difficult for this sector to adopt modern marketing techniques. It has to be accepted that no agency has been able so far to assist or give consultancy service effectively to this sector. In this field, the Government agencies can play only a limited role like conducting training courses in marketing management, holding study groups, symposium, etc.

Government has taken various measures such as price preference, purchase preference in order to encourage small industries. Government should assist financially the small scale industries in introducing rigorous quality control so that their products could find a market without much difficulty. This sector has to play a vital role in our economic life and as such Government should review its policy for the development of this infant sector of the economy.

*"The rationale of perspective planning for small industry thus becomes evident. Small manufacturers' forte of flexibility and close articulation with medium and large plants, requires a host of individual market decisions and localized innovations. Planning should be concerned with overcoming current and emergent problems that handicap small firms, and with establishing a policy framework and organizational basis that set the stage for efficient firm to grow".*

—International Perspective Planning Team



# DEVELOPMENT OF SMALL SCALE INDUSTRIES IN TAMIL NADU

THIRU S. MADHAVAN

*Minister for Industries,*
*Govt. of Tamil Nadu.*

THE economic development of a country depends basically on the development of its industries. This is specially so in the case of developing economies like that of India which have to make up for lost ground. Soon after gaining independence, an impetus was given for the development of Cottage and Small Scale Industries in India. The problem of vast unemployment and the paucity of capital, which could be solved more easily by encouraging decentralised industrial activity on a small scale, has been responsible for the high priority given to the development of small industries in our country. These industries are handicapped by various adverse factors. The Government has to take steps to create the necessary climate in which these industries can function smoothly and efficiently. The basic problems of small scale industries are scarcity of funds, lack of raw materials, shortage of power and restrictive market. The Government of Tamil Nadu have taken various steps to overcome these obstacles and we have achieved a good measure of success. I shall deal with these measures in this article.

During the first three Plan periods, a large number of Departmental Small Scale Industrial Units were set up by the Government of Tamil Nadu mainly to create the necessary base for the growth of Small Scale Industries in the State. The turnover in most of these units has been steadily increasing. With a view to running these units on fully commercial lines, the Government formed on 10th September, 1965 an autonomous Corporation—The Tamil Nadu Small Industries Corporation Limited—and transferred the 65 industrial units till then run by the Directorate of Industries and Commerce to the Corporation. The remaining Departmental Small Scale Units which are in the nature of training and servicing units have been retained by the Directorate. This Corporation started functioning from 1st December, 1965. In order to supply raw materials to the Government-owned small scale units and to the other small scale industrial units under different forms of ownership a Servicing Corporation at Madras and two Raw Materials Depots in the districts were started. To enable small scale industries to avail themselves of the facilities provided by the Central and State Governments for financial, technical and other assistance small cale enterprises are required to get themselves registered with the State Directorate of Industries and Commerce. Small enterprises are expected to quote the registration number while applying for Essentiality Certificate for imports, State Aid Loan, purchase of machinery under the hire purchase system, allotment of controlled commodities, allotment of factory space in the industrial estates and for other facilities.

Service and Repair Cells have been set up for servicing and repairing Electro-Medical Equipment consisting of highly sensitive appliances installed in Government Hospitals of the State.

For obvious reasons, the rapid growth of small scale industries in the past decade in Tamil Nadu has been predominantly in the metropolitan cities.

*A panoramic view of the Guindy Industrial Estate: Tamil Nadu has taken great strides in the development of small scale industries by setting up a large number of industrial estates. For the development of particular industries, Functional Industrial Estates with appropriate facilities are being established at suitable locations.*

Special efforts have, therefore, been made to promote the development of these industries in the semi-urban and rural areas and to check the imbalance in industrial growth. A notable feature of the steps taken is the Intensive Campaigns which are held in the districts for the development of small scale industries in collaboration with the Central Government's agencies such as the Small Industries Service Institute and the National Small Industries Corporation.

To develop Electronic industries in the State in the small scale sector, a separate functional industrial estate has been planned. A Working Group constituted to explore the possibilities of developing these industries has since presented its report to the Government. It is felt that these industries will create an infra-structure of sophisticated electronic goods manufacture in the State.

Sanction has been accorded for the opening of two permanent exhibitions of small scale industries in the districts of Madurai and Tiruchirapalli. The exhibitions would largely contain products of small scale industries (both public and private sector units). The main objects of these exhibitions would be:

(1) to publicise the development of small industries in the region exhibiting the products manufactured by the public and private sector units in the area;

(2) to spotlight statistical information on the number and type of small industries in the areas, giving overall progress achieved by them in production, employment and capital investment;

(3) to highlight technical information on types of industries that could be started, capital required, machinery to be installed, profitability of the scheme, etc.........and

(4) to disseminate useful information on various incentives available to a small industrialist like financial assistance, supply of machinery on hire-purchase, marketing assistance, assistance for raw materials and components, assistance for factory accommodation in industrial estates etc., and on the procedures to be followed for securing the various types of assistance. Similar exhibitions, but of a short duration, will be held for the promotion of ancillary industries which could meet the requirements of big public sector undertakings like the Madras Fertilisers, Madras Refineries and the Bharat Heavy Electricals. The emphasis here will be to enthuse the unemployed graduate engineers to start some of these ancillary units.

A Small Scale Industries Board at the State level consisting of officials, industrialists and non-official members under the chairmanship of the Industries Minister has been constituted. The Board advises the Government on the various aspects of the promotion of small scale industries and on specific matters that might be referred to it by the Government.

District Level Committees in each district, consisting of official and non-official members including State and Central legislators of the regions have also been set up. These Committees will ensure that the setting up of new small enterprises in their respective areas is speeded up and all the necessary facilities are made available to the entrepreneurs without delay.

Arrangements have been made for a study of the relevant State Acts with a view to simplify the procedure relating to the establishment of small enterprises

*The SISI Extension Centres in and around Industrial Estates play significant role in assisting the new units to come up rapidly. Such Centres are equipped with multi-purpose machines like the one installed in the Foundry Extension Centre at Coimbatore for testing the sand moisture. Intently observing the working of the testing equipment are Shri K. Balachandran, Additional Secretary in the Ministry of Industrial Development and Internal Trade, and Shri C. Jagannathachari, Director, SISI, Madras.*

so as to be conducive to the speedy development of small industries.

In the matter of procurement of certain items of stores required by the State Government the goods manufactured in the small scale sector enjoy a price preference of upto 15% in their cost, compared to those manufactured in the large scale sector. This policy is designed to encourage the growth of small enterprises in certain lines of production and to ensure a steady outlet for the products of such enterprises.

One of the major decisions taken to develop the units set up by the Government on sound commercial lines is the formation of the Tamil Nadu Small Industries Corporation Limited, referred to earlier. Besides running the several units on commercial lines, the Corporation programme is to encourage specialisation and to rationalise production. As a result of the efforts taken in this direction Corporation recorded a production of Rs. 68.4 million in 1969-70 as against Rs. 38.9 million in the year 1965-66 i.e. a rise of Rs. 29.5 million over a period of 5 years. This rise was particularly marked in the year 1969-70 as the production went up by Rs. 12.2 million as against the increase in production achieved in 1968-69 of Rs. 6.4 million. The total sales of the Corporation in 1969-70 reached a figure of Rs. 64.9 million as against the sales of Rs. 34.1 million in 1965-66. The Corporation employs about 5,300 workers in addition to technical and non-technical staff.

Apart from the Tamil Nadu Small Industries Corporation Ltd. another autonomous body viz. The Tamil Nadu Small Industries Development Corporation has been established with a view to give an impetus to the development of small scale industries in the State. The main objectives of the Corporation are:

1. Effective procurement and equitable distribution of essential raw materials required by small scale industries units;
2. Setting up of a recognised import house as a wing of the Corporation for consolidating the import licences of small scale industries and effecting imports against them;
3. Offering technical consultancy for new entrepreneurs who desire to set up small industries;
4. To strengthen the capital base of small scale industries by participating in the capital structure;
5. Assistance in the marketing of the products of the small industries;
6. Export promotion;
7. Supply of machinery on hire purchase. The three Government depots for the distribution of raw materials mentioned earlier have been transferred to this Corporation to form the nucleus of the Raw Materials Depots of the Corporation.

Aid is given under the State Aid to Industries Act to the small scale industries to promote industrial development of the State. New or nascent industries, industries newly introduced into areas where such

*The SISI Madras has a Electric Motor Testing Laboratory at Coimbatore. The Additional Secretary in the Ministry of Industrial Development and Internal Trade, Shri K. Balachandran is seen switching on the Hydraulic Dynamometer.*

industries are under-developed, cottage and small scale industries are receiving loans under this Act. Loans are granted upto a maximum of Rs. 0.2 million on reasonable rates of interest. The maximum period of repayment is 20 years.

Tamil Nadu has taken the lead in the establishment of Industrial Estates by providing well-planned factory accommodation to small scale industrialists with facilities for water, power, transport, communication etc. The Industrial Estates are of the following categories:—

(1) Conventional Industrial Estates where different types of industries are located;

(2) Functional Industrial Estates which cater solely to the needs of certain special types of industries, such as leather, ceramics, electronics, etc.;

(3) Ancillary Industrial Estates which cater to the needs of ancillary units to large scale industries; and

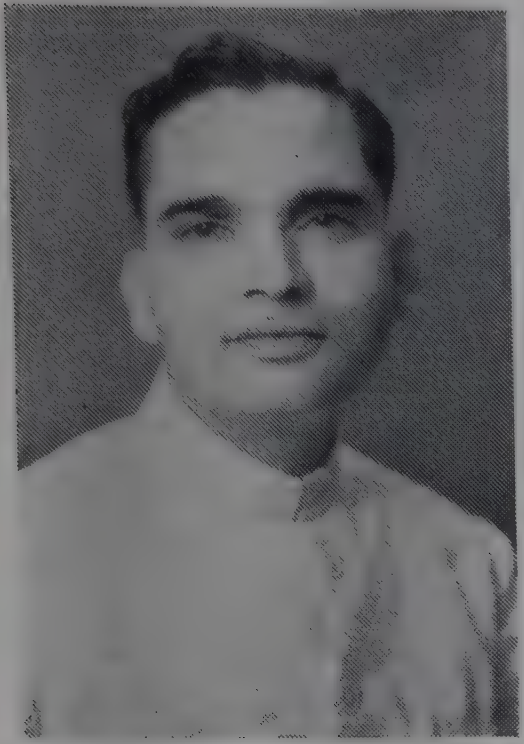
(4) Co-operative and Private Industrial Estates.

There are 36 industrial estates under these several types with 852 units. The cost of estates is of the order of Rs. 95.31 million. There are plans to extend the scheme of industrial estates to cover the entire state as early as possible.

With the object of reviving and developing the ancient handicrafts of Tamil Nadu for which it is justly famous, a number of training and production centres have been set up. These units cover a very wide range of handicrafts. Some of them are stone sculpture at the famous Mahabalipuram tourist centre, art metalware, temple car making, bell metalware, palm-leaf products, sun-hemp and woollen druggets and lacquerware. The State Government is running a College of Arts and Crafts at Madras and a School of Arts and Crafts at Kumbakonam. In both the institutions, a two-year integrated course followed by a three-year Diploma course is being conducted. The courses include painting, sculpture and commercial arts. Many students from abroad are also studying here. The handicrafts products of Tamil Nadu have been displayed successfully in foreign fairs and exhibitions held at Sydney, Rome, Hongkong and Berlin. The temple car manufactured at the Temple Car Training Centre, Nagarcoil and the soapstone model of the Shore Temple at Mahabalipuram had been sent for display at the EXPO '70 in Osaka, Japan. The Government is running a number of Handicrafts Sales Emporia at Madras, Mahabalipuram and other centres in order to facilitate the marketing of handicrafts products manufactured by the departmental units, Co-operatives and private artisans and craftsmen. Handicrafts of Tamil Nadu are also sold at the duty-free shop at the Meenambakkam airport. There are also several emporia run by the Madras State Handicrafts Co-operative Marketing Society.

A notable feature of our industrial Co-operative sector is the formation of several tea factories in the Nilgiris district under a Central Service Society. These factories were conceived with a view to see that small growers of tea in Nilgiris district are enabled to obtain a fair price for their produce and are no longer at the mercy of the leaf factories which buy the leaves at a relatively low price. The total cost of the production programme and service facility programme of all the factories is Rs. 10.88 million. The factories are working successfully. Many more co-operative tea factories are proposed to be established in the Nilgiris with the continued assistance of the Tea Board.

Besides our existing programmes, there are ambitious plans for the future which will help our small scale sector play a more effective role in the economy of our country.



# DEVELOPMENT OF SMALL SCALE INDUSTRIES

MANUBHAI SHAH

*Member of Parliament*

THE programmes for the development of small scale industries were launched at the beginning of the Second Five Year Plan. These programmes assumed definite dimensions by the beginning of the Third Plan. By now the foundations for the development of small scale industries in this country have been well laid.

Encouraged by the achievements of the small scale industries during the successive plans a much larger amount i.e. about Rs. 1,240 million has been provided for their development during the Fourth Plan period as compared to Rs. 560 million provided for them in the Second Plan period. Small scale industries have not only achieved the targets set for them but have in most fields crossed the targets in all our Five Year Plans.

In the field of employment, much larger opportunities have been created by the small scale units. The registered small scale factory sector today accounts for about 35% of the total factory employment. These industries have also helped a great deal in arresting the upward trend of prices by producing a large variety of consumer goods, demand for which have been steadily increasing as a result of our growing economy. Diversification of industrial production and widest range of technologies involved have been the most remarkable features of the development of modern small scale industries in India. As a matter of fact, our developmental programmes for the small scale industries have set a model for all the developing countries of the world.

**Raw Materials**

The credit for achievements of small scale industries goes to the skill and enthusiasm of small private entrepreneurs. They are also being helped at various stages by the Small Scale Industries Development Organisation (SSIDO) with a Small Industries Service Institute in each State and by the State Directorates of Industries. However, this sector has to face many difficulties of which shortage of raw materials is the most formidable problem. The position about indigenous pig iron and steel has eased somewhat although in the case of some categories of special varieties of imported steel, the position still remains unsatisfactory. Sometimes some breakdowns and temporary transport difficulties cause shortage of pig iron. The quality of indigenous pig iron is not uniformally of a high standard particularly for the small scale units. Fortunately, recently it has been possible to get larger supplies of non-ferrous metals, which are in short supply for the small scale industries. But the overall shortage of raw materials for this sector continues.

**Finance**

In the field of finance also, progress is noticeable. During the Fourth Plan, Rs. 850 million are likely to be spent by the State Governments on the development of small scale industries. Besides the State Governments, the State Bank of India and the State Finance Corporations have also been helping the small scale industries on considerably liberalised

*General Ne Win, President of Burma appreciates a fine piece of Hosiery Garment displayed in the UNCTAD-II Exhibition* (1968), *New Delhi.*

terms and under a much simplified procedure. Nearly Rs. 980 million per year have been given to the small scale industries by the State Bank of India and its subsidiaries and another Rs. 260 million by the State Finance Corporations out of their own funds during the year 1969-70. Other scheduled Banks had advanced Rs. 2,400 million till 31-3-70 to 44,625 parties including small industrialists and traders.

Another important scheme for helping the small industries financially, is the Credit Guarantee Scheme of the Reserve Bank of India which was introduced towards the end of the Second Plan. Under this scheme, about 140,000 small industrial units have been given guarantee certificates amounting to about Rs. 6,480 million. All these credit and financial facilities have helped this sector to expand manifold.

**Extension Service**

The facilities for technical guidance and assistance to small units have considerably expanded and the quantum of assistance has gone up. Besides the Small Industries Service Institutes (one in each State) and Branch Institutes, there are nearly 60 Extension Centres spread over different parts of the country. The extension service is now much better staffed and equipped. During the last year i.e. 1969-70, 84,968 parties were given technical advice and 35,641 parties were assisted in setting up new industries. From the

*The significance of the small scale sector: Shri K.L. Nanjappa, DC (SSI) explaiening to the late Dr. Zakir Hussain, President of India, the place of small scale industries in Indian economy when he visited the exhibition held for the UNCTAD-II.*

C.F.T.R.I. Experiment Station, LUDHIANA-6
2 JAN 1985

start of these extension services ten years ago, 637,706 parties have been given technical advice and 289,361 parties were assisted in setting up new industries by the SSIDO i.e., the Small Scale Industries Development Organisation upto 31-3-1970.

Besides, the mobile workshop fleets and the Intensive Campaign teams of the various Institutes have been touring the districts and countryside to bring the knowledge of better techniques of production to the very threshold of village artisans. These mobile workshops have rendered great help to small industries. In the course of these demonstrations, 6,000 artisans are being given training annually in the operation of upto-date machines. The Organisation has also been carrying on its programmes of preparing technical literature—model schemes, designs and drawings, technical bulletins etc.—for the guidance of existing and prospective small entrepreneurs. The Small Industries Service Institutes had prepared 2,925 schemes, 47,197 designs and drawings and 1,014 technical bulletins.

**Industry Prospect Sheets**

The programme of Economic Surveys has been given a new orientation and the work of preparing Industry Prospect Sheets is going on well. By the end of last year about 244 Prospect Sheets had been completed. States are taking necessary steps for their translation and circulation. This work needs to be given greater attention by the Central and the State Governments.

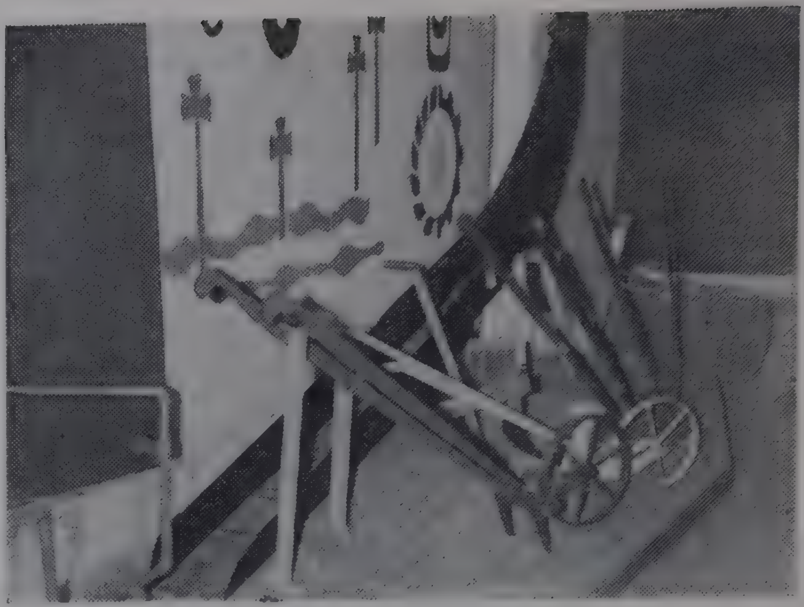
### Small Industry Extension Training Institute, Hyderabad

67 senior officers of the SSIDO have been sent abroad for advanced training so far. A very important development in the field of training has been the establishment of the Small Industry Extension Training Institute at Hyderabad with a grant from the Ford Foundation. This Institute, which at present has a capacity of training 300 persons, is intended to provide special training to the extension officers of the SSIDO and the State Governments. The training is being organised for the Government Officers, but its scope is also extended to train small industrialists and private industrial consultants in the field of small industries development. It also attracts trainees from foreign countries and it is the intention of the Government to expand its training capacity during the coming years.

### Quality and Productivity

It is not only enough to find out newer fields for small industries but there is increasing need for improving the productivity and the quality in existing industries to achieve these ends. It should be the task of the Institutes in the States hereafter to help these industries in these directions. The National Productivity Council established the National Institute of Training in Industrial Engineering (NITIE) at Powai (Bombay) at a cost of over Rs. 40 million with the assistance of United Nations Special Assistance Fund. The Proto-type Centres at Howrah (Calcutta), Okhla (New Delhi) and Rajkot are imparting training in higher skills and technology to the trainees. It will be good if we can establish one major Prototype-cum-Training Institute or Centre oriented round a major manufacturing industry, one in each state.

*Orissa, after all, is not so backward as it is supposed to be. The products manufactured by the small enterprises in the state, displayed at the Agro-Industries Fair—1970 held at Cuttack will bear ample testimony to this fact.*



*Agricultural implements displayed at the Agro-Industries Fair in Cuttack, April 1970.*

### Industrial Designing

In addition to the above, the Industrial Design Cell of the Central Organisation has been helping the small industrialists in improving product designs, by studying the consumer demand, functional values, aesthetic appeal and economy in production. About 3,496 such designs and drawings had been prepared by the Cell upto March 1970, which would help the small units in adding sales appeal to their products in over 37,357 blue-prints of the designs and 316 proto-type models. In order to expand this activity, a Central Design Institute has been established at Ahmedabad which is doing excellent work for helping the small industries.

### Economic Surveys

In keeping with the directions given by the Small Scale Industries Board, surveys of under-developed areas and districts have been given highest priority. Several Intensive Development campaigns have been conducted in backward areas based on such Reports. These campaigns have already succeeded in a large measure in creating the necessary industrial climate for the development of small scale industries. The results of these efforts are encouraging and there is a growing demand from various parts of the country for undertaking such surveys and intensive campaigns. Looking to the needs of the country, this work of

"Intensive Campaigns" needs to be further intensified in all parts of the country.

The keen interest in the development of small scale industries which is growing fast all over the country is also gauged by the number of enquiries which are received by the SSIDO and the Service Institutes. To date 308,000 enquiries have been answered by the Small Scale Industries Development Organisation on various aspects of development of small scale industries.

### New Industries

The problems of small scale industries are changing very fast. The types of industries which were being suggested some years ago are now becoming superfluous and therefore there has to be greater emphasis on the manufacture of selected items and on new industries. The SSIDO therefore has started giving the necessary direction to this movement so as to cover a new field of small scale industries. In this category are included items like transistors, typewriters, automobile parts and ancillaries, scooter parts, electronics, instruments, small tools and other mechanised industries. Foreign collaboration in many of these fields has also been encouraged keeping in view the technical requirements as well as quality.

### Chemical and Plastic Industries

While the phenomenal development of small scale industries during the Third Five Year Plan period was more on the engineering industries side, a much faster progress has to be made by the small industries during the Fourth Five Year Plan in the field of Chemical and Plastic industries. The processing of plastic raw materials, dyestuffs, pesticide formulation, paints and varnishes, paper conversion, ceramics industry, etc. offer enormous scope of development of small industries in future years. The policy of the Government has been that main raw materials manufacturers are allowed to convert only a part of their production and the balance would be distributed between the large scale and small scale processing and conversion units. As a result, a very large development is expected in the small sector in the chemicals and plastic processing industries. Nearly 10,000 small scale units can come up in the coming years in these fields.

Details regarding the demarcation of the spheres of the production between the large-scale and small scale sectors in different fields are being continuously worked out. While considering the manufacture of plastic goods by plastic raw material manufacturers (captive capacity), the Government sees to it that they undertake the manufacture only of difficult and complex products which are beyond the scope of small scale units. As a result of the above decisions, it is expected that the small scale industry would have ample scope for development in these fields.

### State Government Scheme

According to the procedure in vogue in the past, all the State Governments and the Union Territories were required to submit to the Development Commissioner (Small Scale Industries) their small scale industry schemes for technical approval. This procedure has now been revised. Under the new procedure it is no longer necessary for the State Governments to obtain technical approval of the Development Commissioner (SSI) for their small scale industry schemes. The States and the Union Territories can now sanction their own schemes. But in the Annual Plan discussions of the State Governments with the Working Group of the Planning Commission, the schemes are jointly considered and reviewed in connection with the annual allocation for Plan periods.

### Industrial Estates

402 Industrial Estates with requisite facilities have been so far constructed in different parts of the country. Nearly 6,948 factory sheds have been occupied in these estates. 5,413 factories which are functioning at present in the industrial estates employ nearly 96,365 persons and produce goods worth Rs. 1,000 million annually. Rajkot Industrial Estate in Gujarat was the first estate to be established in the country.

### Functional and Ancillary Industrial Estates

Some progress has been made in the establishment of Functional and Ancillary Industrial Estates. Some States have made a headway in this direction by encouraging functional estates. So far ten such functional estates have been established in the country.

With the cooperation of private and public undertakings some progress has also been made in this direction. Messrs Kirloskar Limited, Harihar have established a functional industrial estate at Harihar which has taken up the manufacture of machine tools. One industrial estate for automobile ancillary and another for leather goods manufacture have been established in Madras. Messrs Hindustan Machine Tools, Bangalore, have already established ancillary units in their industrial estate and other public sector undertakings like the Heavy Electricals, Bhopal; Hindustan Antibiotics, Pimpri; National Instruments Factory at Calcutta and Messrs Hindustan Aircraft Limited have also established functional industrial estates for small units.

### Ancillary Industries Survey

In order to facilitate this work a survey of ancillary industries was organised by the SSIDO through the agency of the Universities and Research Institutions. The first report on ancillary industries was submitted by the Institute of Economic Growth, Delhi. The reports of the National Council of Applied Economic Research and a few other Universities have also been very useful. Each State and the Small Industries Service Institutes should continuously conduct such surveys periodically. As a result of such surveys, it will be possible for the Central and the State Governments to give the necessary policy orientation to the development of ancillary industries.

### National Small Industries Corporation

Since its inception, the Corporation has placed orders for over 28,850 machines of which 75% have been delivered and orders for the rest have been placed with different manufacturers abroad. The value of imported and indigenous machines supplied till April, 1970 by the NSIC to Small Scale Units all over the country comes to over Rs. 236.2 million and Rs. 165.9 million respectively.

To overcome delays, the entire procedure of dealing with the applications has been recently changed by the NSIC. A Committee has now been constituted which includes officers of the NSIC and the Development Commissioner's Office. This Committee scrutinises all applications for hire purchase of machinery once a week and also clears them from indigenous angle in most cases wherever possible. The proposals accepted by the Committee are sent to the CCI & E for issue of import licences for foreign machinery or to the NSIC for placing orders for the indigenous machinery. The NSIC should further streamline its procedures so that some of the unnecessary delays experienced can be further eliminated.

### Government Purchases

Till April 1970 the orders for Government purchases procured through the NSIC for small industries total to Rs. 1,840.4 million from the small scale industries. As against Rs. 96.9 million worth of orders during the Second Plan, the value of orders secured for the small industry sector in the Third Plan was Rs. 940.2 million. In 1969-70, in one single year, purchases from small industries were worth Rs. 228.4 million.

If small industries have to play vital role in our economy, their export potential will have to be increased considerably. In the direction of promoting exports as well as internal marketing, the NSIC, the State Export Corporations, and the State Trading Corporation and the leading private Export Houses will have to play a more effective role in the years to come. In view of the problems of marketing becoming more acute, Marketing Research Guidance and Counselling should necessarily be one of the most important activities of the agencies responsible for the development of small scale industries.

### Future

The future of small industries in India is extremely bright. I hope about a million small scale units will be set up in different parts of the country in the seventies. We should do everything to help the movement of Small Industry.

# SMALL INDUSTRIES IN VARIOUS COUNTRIES—PROGRAMME OF ASSISTANCE

A. G. KULKARNI
*Member of Parliament*

## I

## APPROACH

IN developing countries, agriculture represents near totality of economic activity. To change this situation, agriculture and industry need to be integrated. Creation of new employment opportunities and equitable distribution of national income depends upon how best rural economy is diversified. In this process, induction of industry on massive scale is of fundamental importance. In most of these countries capital is scarce, poverty is extreme and labour is plenty. Under these circumstances, it would not be advantageous for them, both from social and economic point of view, to encourage growth of large-sized capital-intensive industries. What would ideally suit them is the development of small scale industries with minimum capital outlay.

As a result of technological improvement, superiority of large scale production achieved through capital-intensive industries is no more valid. Hitherto, it was technology which largely determined the relationship between the size of a plant and efficiency. Higher technology was identified with bigger plant and greater efficiency. Fortunately, technological improvements in most of the industries today are tending to reduce the optimum size of the enterprise. For instance, in decentralised carpentry work there is virtually no technical lower limit to the size of a unit.

Preference to small scale industries is important from one more point of view. They facilitate peaceful and concurrent socio-economic development of all classes of people by creating a large number of entrepreneurs. Hope of economic democracy lies in the development of such an entrepreneurial class which would provide industrial and business leadership at the lowest level.

A net-work of small industries need to be set up over as wide an area as possible so that they may function as catalytic agents for further development. This would be possible if infra-structural facilities are developed in rural areas. Another objective of developing small industries in rural areas of the developing countries is to minimise, if not arrest, the outflow of labour by creating employment opportunities locally. This would also provide a sound social and economic base for building modern industrial societies in these countries.

Intensity of and emphasis on development apart, the promotion of small industries forms an integral part of the strategy for economic growth both in developed and developing countries. Their motivations may, however, differ. In the developed countries, functional specialization and economic viability are largely responsible for policies which foster the growth of small industries. For instance, production techniques, marketing needs, required level of technologies, to mention a few, are factors which favour the establishment of small enterprises in developed countries. Development strategies in this case are purely of promotional nature. They will generally have no restrictive influence on the growth of other sectors of industry.

In the case of developing countries, socio-economic considerations like dispersal of industries, diffusion of economic power in the hands of as large a number of

*India has to learn a lot from advanced countries like the USA in order to keep pace with the latest development in the field of science and technology. For this purpose visits of experts in various fields are arranged and given widest publicity. Here, Dr. S. M. Atlas is demonstrating the latest developments in plastics. Such demonstrations were held at various places in the country.*

people as possible, scope for the absorption of surplus manpower to facilitate a more equitable distribution of national income, etc., determine the shaping of suitable programmes of assistance and the formulation of appropriate policies for the development of small scale industries to ensure a balanced economic growth. The developmental strategies in such circumstances do often assume restrictive trends and necessarily regulate the free growth of other industrial sectors in the larger interests of the country.

Fundamental reforms cannot be divorced from ideological considerations. Therefore, emergence of a network of small scale industries should be encouraged and guided by an economic philosophy rather than by the immediate economic aspirations. The developing countries wedded to democratic approach and socialistic aims should look at the programme of small industries in this perspective. The economic system in which an individual is not free, whether on land or industry, will ultimately work out to the detriment of democracy. Political and economic systems are inter-dependent and we cannot have a system in which they are mutually conflicting. In this context, the desirability of establishing small industries on co-operative basis is also an important aspect that needs to be constantly kept in view.

## II

## DEFINITION

Depending upon the historical conditions and economic growth, definition of small scale industries differs from country to country, particularly, a small industry may not be that small in another country and vice-versa. Nevertheless, it is possible to group, on a broad basis, industries which could be identified as small industries for the purpose of comparative study.

For identification of small industries, factors taken into consideration vary from country to country. The characteristics which form the basis of definition consist of product type, system of work organisation, number of workers, capital investment, energy input, physical measures of output, value of output, location, production, technology, social technology (organisation, business methods) market orientation, etc. The definitions of small scale industries could also be grouped into administrative and statistical ones. The former is more of a yardstick to identify the industries and the latter is for studies and projection and analytical findings.

In respect of administrative definition, for instance, in Ceylon, those power-driven industries in which capital investments do not exceed $ 40,000 are considered small. In Japan, on the other hand, the limit for capital investment is $ 28,000 with employment not exceeding 300 in manufacturing enterprises. In U.S.A., mere certificate of Small Business Administration decides which industry is small, provided it employs less than 500 workers. The Italian law provides that small enterprise must have certain structural and size characteristics. In India, all industrial undertakings with not more than $ 100,000 investment in plant and machinery are considered as small industries.

In statistical approach, small scale industry is defined by ECAFE as one which is operated mainly on hired labour usually not exceeding 50 labourers and not using motive power in any operation or 20 workers in any establishment or unit using motive power. The United Nations' report on development of manufacturing industry in Egypt, Israel and Turkey refers to manufacturing establishments employing less than 10 persons as small scale.

## III

## GROWTH

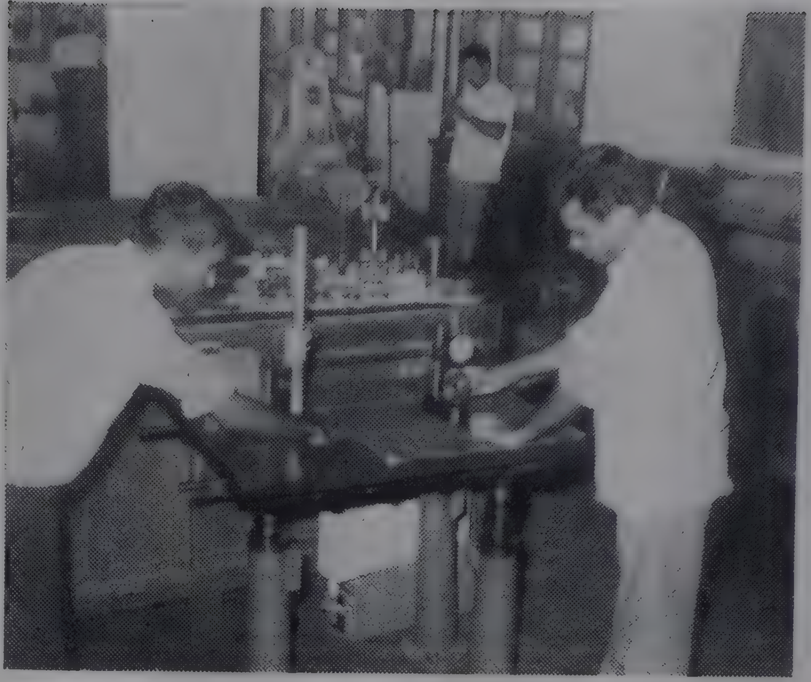
In India, small scale industries have recorded a phenomenal progress during the last few years. Not less than 300,000 enterprises are covered under the programme of assistance rendered by the Small Scale Industries Development Organisation (SSIDO). Out of these, as many as 178,000 small enterprises were registered with the State Directorates of Industries (upto March 1969) and in which 1.86 million persons were employed at different levels. The registered factories covered under the SSIDO programme of assistance account for 91% of the total number of registered factories, provide 41% of the total employment in the registered factories and are responsible for 52% of the gross output of the 'factory' sector.

Compared to the earlier years of development of small scale industries in India, there has been a noticeable expansion in the lines of production in the small scale sector. Small enterprises have, of late, taken up the manufacture of modern and sophisticated products and have ventured into many new lines of production such as manufacture of electrical machinery and equipment, electronic components and gadgets, machine tools, precision instruments etc. Small industries contribute more than half of the total production of radio sets manufactured in India and are major partners in the production of electric motors, transformers, switchgears, cables, electric wiring accessories and domestic electrical appliances.

In the field of non-engineering industries too, their contribution is in no way less significant. They manufacture a vast range of products like dyes, drugs and pharmaceutical products, paints and varnishes, plastic conversion products, besides formulations, rubber products, cosmetics, adhesives, paper conversion products and textile accessories. Their contribution in these fields of production is estimated to be not less than 37% of the relevant production in the country.

In 1966, the small enterprises in Japan totalled 592,250 accounting for 99 per cent of the total number of manufacturing enterprises, nearly 70 per cent of the persons engaged in manufacturing and 51 per cent of the total value of shipments for all the manufacturing enterprises. In U.K., there are nearly 14,000 known small industries eligible for assistance from the Government. These firms employ between them some 50,000 workers with a gross annual output of the order of £50 million.

In Taiwan, small scale enterprises dominate in all the labour-intensive manufacturing fields. These enterprises are assisted by the Government in many ways. Enterprises to be assisted under this programme generally employ less than 100 workers or those with total assets worth not more than U.S. $125,000. Large enterprises draw more services from small ones, such as supply of parts, further processing of articles, maintenance and installation services. The labour-intensive small industry is thereby giving way gradually to skill-intensive small industry in urban areas of the country.



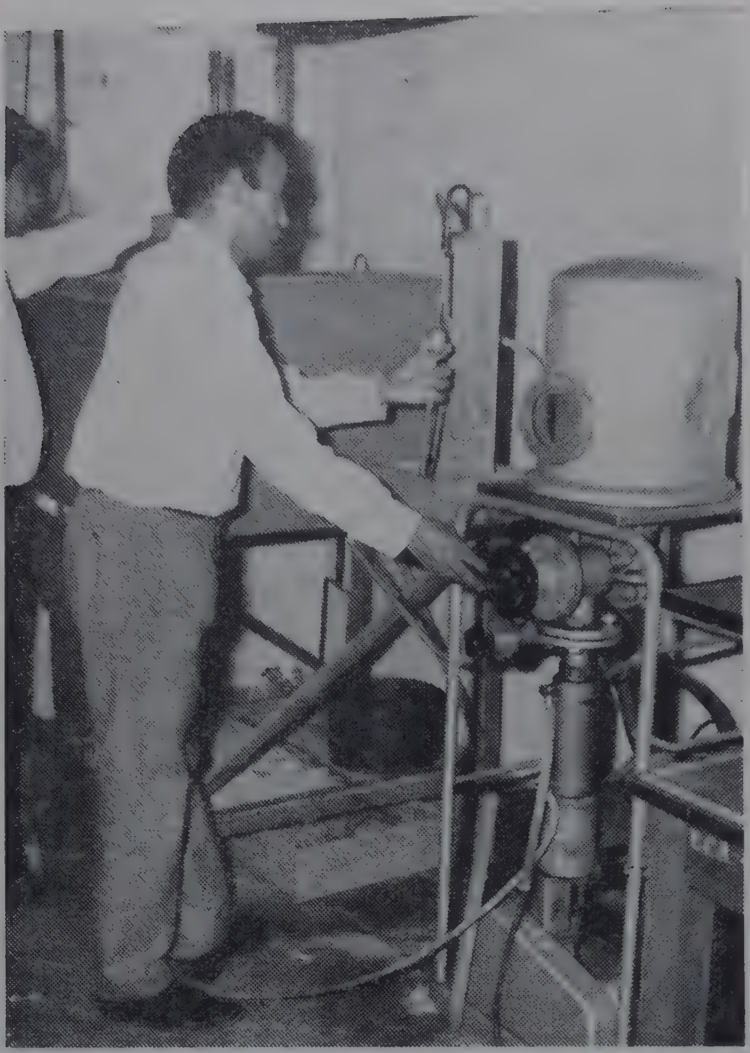
*With their limited resources, the small units do not find it economical to instal independent testing equipment of their own and have to depend on the facilities available at the SISI & Extension Centre Workshops. One such inspection is in progress in the tool room of SISI, Ludhiana.*

Small and medium industries in the Republic of Korea number 19,253, accounting for 98% of the total manufacturing firms and employing about 62% of the total persons engaged in manufacturing. These include such enterprises as do not have more than 200 regular employees with total assets not exceeding 3 million Korean Won.

## IV

## PATTERN OF ASSISTANCE

It is well known that small enterprises as compared to large ones, suffer from certain production and marketing limitations, which are strikingly noticeable in a number of product lines. Apart from such product lines which do not have any significant scale



*The SSIDO has set up special purpose training facilities in various Institutes and Extension Centres. The Centre for the manufacture of thermometers is at Solan in Himachal Pradesh. Photo shows filling of thermometers under vacuum.*

economies, small industries in other product lines find it very difficult to capture and hold a place for themselves in the overall economy of a country without adequate support in the form of aids and facilities relating to different aspects of their operations. It is true not only about developing countries but also of developed countries.

The assistance programme undertaken by the government and industry in different countries lay emphasis on different aspects of the programme according to the stage of development reached by small scale industries and the market competition they are called upon to face in their respective context.

For instance, in India, the Government Programme of assistance for the development of small scale industries covers almost every major aspect of the operation of these industries. It has both the regulatory and promotional facets. Its regulatory facet is represented by the approved production programme, the common production programme, reservation of specified products for Government purchases from small scale units exclusively, and also the policy of reservation of certain industries/products for future expansion in the small sector alone.

The promotional aspect of the programme is identified by such activities as exploration of industrial possibilities for specific areas and of market prospects of specified products manufactured by small scale enterprises; provision of technical, advisory and consultancy services and of training facilities in technical and management fields; financing of small scale industries on liberal terms; marketing assistance rendered to these industries in the field of exploring market possibilities for small industry products and also in actual selling of such products; development of ancillary relationship between large and small scale industries; programming and evaluation of the functioning industrial estates; and the promotion of industrial entrepreneurship through intensive development campaigns.

Economic services are rendered by the Small Scale Industries Development Organisation (SSIDO) in the form of various types of surveys not only to assist the individual small entrepreneurs and potential investors in making business decisions but also to guide the planners and administrators in the formulation and effective implementation of various development programmes. Till October 1969, 277 industry prospect sheets and 151 area survey reports, besides some feasibility studies and distribution aid surveys had been completed. Technical assistance counselling to small scale enterprises is rendered in respect of the choice of machinery and manufacturing processes, improved designs, common service facilities, technical literature, enterprise—oriented studies relating to the specific technical problems faced by them.

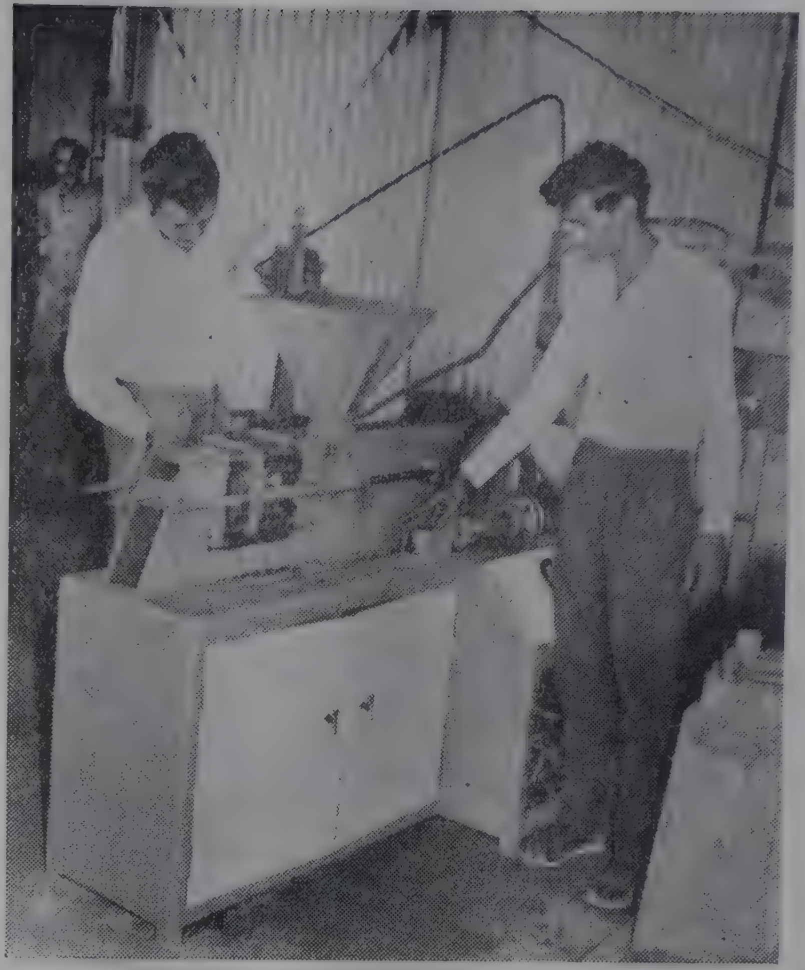
Till October 1969, 462 model schemes, 314 technical bulletins and about 40,000 designs and drawings were prepared and 151,798 jobs were undertaken under the common service facilities programme. Technical assistance is also rendered to the State Governments for effective implementation of different small industry development programmes under their jurisdiction.

Training facilities in technical and management fields provided by SSIDO, NSIC(PTC), SIET Institute and the Industrial Training Institutes run by State Governments, enable small enterprises in upgrading their technical and managerial talents and skills. SSIDO alone imparted training to 26,458 persons in industrial management and trained 30,053 persons in technical trades till March 1970.

Short-term and medium-term credit facilities are provided by the State Bank of India, other commercial banks and the co-operative banks, while the long-term credit requirements are met by loans under the State Aid to Industries Act, loans advanced by the State Financial Corporations. Besides the above credit facilities, the NSIC Ltd. also supplies machinery and equipment on hire-purchase basis, the value of machinery generally being recovered in half-yearly instalments spread over a period of seven years. As on 30th September, 1969 loans sanctioned to small scale units by the State Bank of India under liberalised terms amounted to Rs. 2142.6 million; the nationalised commercial banks sanctioned Rs. 3794.6 million; the State Financial Corporations sanctioned Rs. 490 million and loans under State Aid to Industries Act amounted Rs. 346.8 million. The NSIC had, till March 1970 supplied machinery worth Rs. 402 million on hire-purchase basis.

Marketing assistance, in the form of exploratory market surveys, market counselling and training in market management, is rendered by the SSIDO and that for actual sale of small industry products is provided by the NSIC in the form of enlisting the participation of small scale units in Government Stores Purchase Programme and by the State Small Industries Corporations in the form of setting up sales emporia, etc. The NSIC secured for small enterprises enlisted with it contracts valued at Rs. 2.086 million during the year 1969-70. Assistance in export marketing is rendered by the State Trading Corporation and the State Export Corporations on favourable terms. The development of ancillary production in small scale sector by SSIDO is quite an active area of marketing assistance. The SSIDO had as on 31st December, 1969, 319 small scale units enrolled with it under this programme.

Industrial estates programme, as a means of promoting small manufacturing on a decentralised basis and encouraging the growth of ancillary industries, was vigorously pursued. As on 30th March, 1970, 389 industrial estates were reported to have been constructed. In 303 industrial estates functioning, 5,413 sheds were occupied by factories which accounted for an annual production of Rs. 1,000 million and employment of 96,400 persons. Last but not the least, the intensive development campaigns launched by the SSIDO in collaboration with other developmental agencies in comparatively backward areas have been responsible for mobilising local resources and enthusing local entrepreneurs to set up industrial ventures through on-the-spot assistance and advice.



*Development of jigs, tools, fixtures and other equipment and machinery is one of the main functions of the Extension Centres under the SSIDO. Photograph shows a plastic injection moulding machine under development at the Bhavnagar Centre.*

It will thus be seen that small scale industries occupy an important position in the economic structure of India as also in that of a number of developed and developing countries. The pattern of their growth and development shows variations from one country to another, and so does the emphasis laid on different aspects of the assistance programmes introduced for the development of these industries. Whereas the developed countries mostly concentrate on strengthening this sector through their own effort on a collective basis, the developing countries have official agencies to plan and implement the programme of their development. As such, their assistance programmes are comprehensive in coverage and direct in approach. India is a typical developing country where the programme of assistance is administered by official organs dealing with almost all the basic aspects of small industry operations.

In Japan, the main thrust of government assistance programme is on increasing the manufacturing efficiency and market competitiveness of small industry products through such positive aids as modernisation and rationalisation of their production and management methods and subsidisation of formation of groups by them for production and marketing activities. Wherever necessary, legislative measures have been enacted to ensure a fair deal for small enterprises in competition with large enterprises.

In U.S.A., the small business assistance programme, administered by Small Business Administration, has got such facets as technical and financial aid, counselling assistance and protection of the interests of small businesses. It also ensures that small businesses are able to obtain a fair proportion of the total government purchases and contracts for supplies. Its main emphasis is on rendering a composite techno-financial assistance to small businesses and also to assist them in taking advantage of marketing opportunities available in the Government sector and in the export markets through collaborative efforts with the Department of Commerce.

In U.K., Government assistance is limited to rural industries and mainly related to the improvement of technical and managerial skills of these enterprises and also to the provision of financial assistance on concessional rates of interest to them. The council for small industries in Rural Areas in England and Wales and a similar body in Scotland—the Scottish Country Industries Development Trust—offer services of training and advice to rural industries.

In certain developing countries like Taiwan, Republic of Korea and in India, the Government assistance programmes adopted for the development of small scale industries are comprehensive in content as small industries, in these countries, have been suffering from a much larger technological gap compared to large industries than in the developed countries. In Taiwan, the small business committee set up by the Government in March 1966 has evolved a programme of helping medium and small scale industries to solve their financial, technical, sales and managerial problems so as to enhance their productivity and efficiency. The Committee executes this programme by coordinating the facilities provided by the existing agencies, including the government-operated enterprises as the China Productivity and Trade Centre, Metal Industries Developmet Centre, Taiwan Handicrafts Promotion Centre, Joint Industrial Research Institute, Military Production Units, etc.. Besides, the government extends a number of unorthodox incentives for promotion of manufacturing on a small scale for export business, particularly in its export processing zones.

In the Republic of Korea, the Government has under-taken a comprehensive assistance programme on a selective basis for the development of industries through the agency, specially of Medium Industry Bank and the Korean Productivity Centre. The assistance programme lays special emphasis on fostering industrial reorganisation expected to bring forth the satisfactory growth of allied industries. This programme has, in the first instance, been extended to ship-building, machinery, automobile, electric industry and petro-chemical industry. The Industrial reorganisation programme seeks to establish optimum relations among industries as to protect medium and small industries from the undue pressure of large industries. It also encourages cooperative grouping of systematised industries. The Medium Industry Bank selects a number of small (labour-intensive) industries for comprehensive specialised loans for fostering small industries in the selected fields of production and for establishing and converting the existing small industries into export-oriented industries.

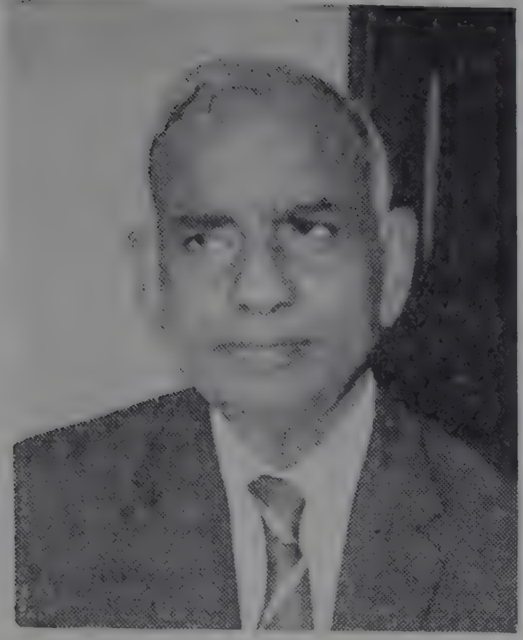
## V

## CONCLUSION

This article is a brief survey of "definitions and assistance programme' in developed and developing countries and emphasises the fact that the administrators in developing countries have a special role to play. There are different stages of development in developing countries and one can not be dogmatic about strategy.

However, the Governments in developing countries cannot afford to ignore, at the cost of their own existence, the stark realities of the effects of unemployment, poverty, low productivity, widening trade gaps, income imbalances etc. Capital-intensive industrial enterprises cannot solve their economic problems nor can they be expected to fulfil the aspirations of millions of people in developing countries for a better standard of living. It is only the encouragement of modern small industries, with intermediate technology adopted to suit local talents, that can create entrepreneurship and employment.

The need of the hour is for the administration in developing countries to take these challenges and to go all out to assist the entrepreneurs and provide suitable infra-structure so that they may function efficiently to build up a strong and self-reliant economy.



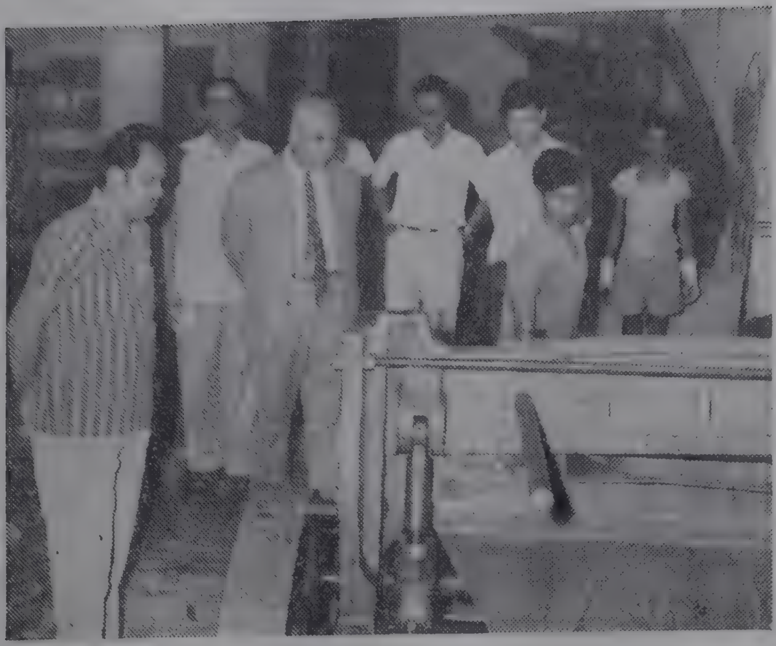
# PROBLEMS OF THE SMALL SCALE INDUSTRY SECTOR

DR. P.S. LOKANATHAN

THE development decade of 1960 to 1970 presents a mixed picture of India's development in economic and social fields. There has undoubtedly been progress both from the point of view of the economic and social conditions. But there was a setback on account of deep recessionary conditions which affected the growth of the economy, the flow of investment and the maintenance of demand. The expected rate of growth of G.N.P. not only did not materialise but in some fields, there was a decline in output. Unemployment increased; the conditions of the poor became worse; and there was widespread feeling that the poverty of the masses of the people had actually increased.

Against this background two notable features have to be noted. The decade witnessed a break through in agriculture, not of course in all branches of agricultural production, not even in the production of all foodgrains, but most definitely in the production of wheat. Thanks to the new high yielding varieties of seeds, the production of wheat doubled, and the area under the new varieties increased rapidly. The same was not, however, true of rice production; but experts are of the view that it would not be long before there is a break through in rice production also. The fact that India has not hit the target of 1 million tonnes of food production is of some significance. It is not necessary to go so far as to believe that India will be in a position over the next few years to export foodgrains, as indicated in an F.A.O. document, but that the age-long food scarcity will not be with us and that the country has attained a much desired self-sufficiency in foodgrains production cannot be doubted. Much has yet to be done, and there can be no justification for any degree of complacency because the four years of continuously good monsoon may not continue even next year or two, and foodgrains production might suffer a sharp decline, but taking the situation as a whole, the most striking feature of the development decade of 1960s is the green revolution that has taken place in the country.

In another field also impressive progress has been achieved and that is in the small industry sector. It is not as if the small scale industry sector escaped the effects of the recession in the years 1966 to 1968. Undoubtedly many small industries suffered great losses, some went out of business and the normal addition to new firms declined. But taking the decade as a whole, the progress of small scale industry has been impressive. The growth of small scale industry in India after the Second Plan period has been nothing short of a revolution. Beginning with production of simple consumer goods, the small industry has branched out into more and more difficult and sophisticated items and more recently entered successfully upon a variety of engineering, chemical and electronic, tele-communication and other new and difficult industries. Production in the small scale industry sector is now nearly 40 per cent of the total industrial production. Employment is significantly larger in proportion to capital employed than in large industries and the number of persons employed also increased substantially. The small scale industry sector has justified itself in every way, e.g., in raising and mobilising new capital which otherwise would not have flowed to the industry. Much of the capital was that of the entrepreneur and his friends. Some of these small industrialists were technicians with industrial knowledge and capa-



*Problems of credit, raw material, management and production techniques are mainly responsible for holding up the pace of development in the small scale sector. The Development Commissioner (SSI) Shri K.L. Nanjappa takes personal interest in having first hand knowledge of the difficulties being faced by the small entrepreneurs.*

city but with insufficient finance. Others there were who had a modest financial means but were not technically qualified. But in spite of these handicaps, the small industry was growing all the time, and today has established itself a strong and vital sector of the economy. Apart from its economic aspects, its social value has come to be recognised more and more on account of (a) the growing apathy to big industrial units bordering on monopolies; and (b) the determination of the government negatively to discourage large industry and positively to encourage small units. Thus all conditions now favour the further growth and development of small scale industry in the country.

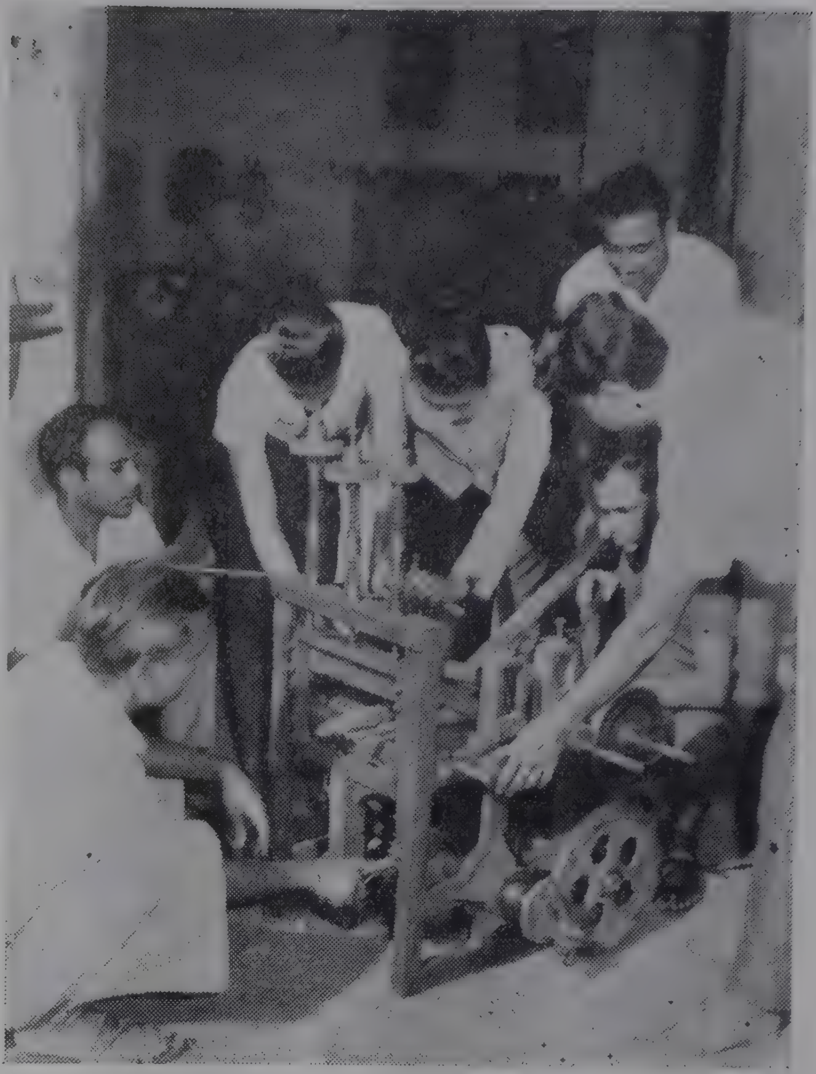
Nevertheless the problems of the small industry are by no means few or simple. They still labour under the handicap of poor and inefficient internal conditions and of unfavourable external factors. Among the internal factors, mention must be made of poor management. Even the technically qualified entrepreneurs lack the knowledge of the essential elements of management. There are businesses which do not maintain accounts and do not know whether they are losing or making profit. Of the elements of financial management they are ignorant. In regard to marketing, they are dependent either on large businesses to which they sell their products or on the general market and in either case, they labour under the disadvantage of lack of knowledge of the techniques of marketing. The entrepreneurs who have set up small enterprises out of their own funds not only lack knowledge of the techniques of modern production but are also equally ignorant of marketing methods and techniques. A number of measures have been taken during the last few years to improve the situation. Small industries are now in a position to get technical advice from the Small Industries Service Institutes one in each State set up by the Development Commissioner (Small Scale Industries) in the Centre. They can also take advantage of the training facilities afforded by Small Industries Extension Training Institute at Hyderabad. The National Productivity Council has also provided for training courses in specific fields relating to small industries like production programmes, work study, financial management, marketing management and other areas of management. It also provides consultancy services to small industries on modest fees. Similarly, but to a lesser extent, the Indian Institutes of Management at Calcutta and Ahmedabad and the Administrative Staff College, Hyderabad have recently taken steps to serve the needs of small industry by organising special courses tailored to meet the needs of small scale sector.

The quality of products of small scale industry has always been a problem. Large industries have often complained of the widely varying quality of the products of some of the small industries. While considerable improvement has taken place in recent years, there is need for developing stricter methods and techniques of quality control. In fact the most acute problem facing the small industrialists is that of rejection of items produced on behalf of and to the orders of large industries. Rejections, however, it must be pointed out, are not always due to the poor or sub-standard quality of the products unacceptable to the large industry. Sometimes the rejection is also arbitrary. The question whether something can be done to bring about greater justice to small industrialists has been considered but the solution does not seem to be easy. It is suggested at times that one way of remedying the situation would be for a small organization to be set up which would decide impartially upon the quality and standards specified in the orders, so that the rejection should not be done unilaterally by the large firms. But the implementation of this suggestion is not easy. It would result not only in delays but also in creating new complications and problems. Ultimately the answer to this can only be found by mutual understanding on the part of the ancillary units and the major industries and on the continuous improvement in the grades and qualities of ancillary production.

The progress of small industry has been hampered to some extent by the still unsolved problem of credit. Thanks to nationalisation of banks and the directives given to them, the proportion of funds allowed to small industry has vastly increased; especially during the last two years since nationalised banks have adopted a very generous and forward-looking policy in respect of financing small industry. Even new young industrialists can now start small industry without offering any security. The procedures have also been simplified to a large extent, security conditions have been relaxed and the old practice of seeking personal security in addition to the security of goods, raw materials and machinery is now being modified. But the problem of credit remains partly because of of the system of payments to small industries on their sale of goods. The bills drawn by them either on government or on private industry are not honoured within the time mentioned in the bills. The duration for the discounting of the bill is much too long to suit the needs of small industries. Unless there is a change in the methods of discounting the bills, the small industries will continue to suffer. Here again the problem can be identified. But the solution is not easy. There should be again an understanding between the large firms and ancillaries that the bills drawn on the former would be honoured within a month and this should be strictly adhered to.

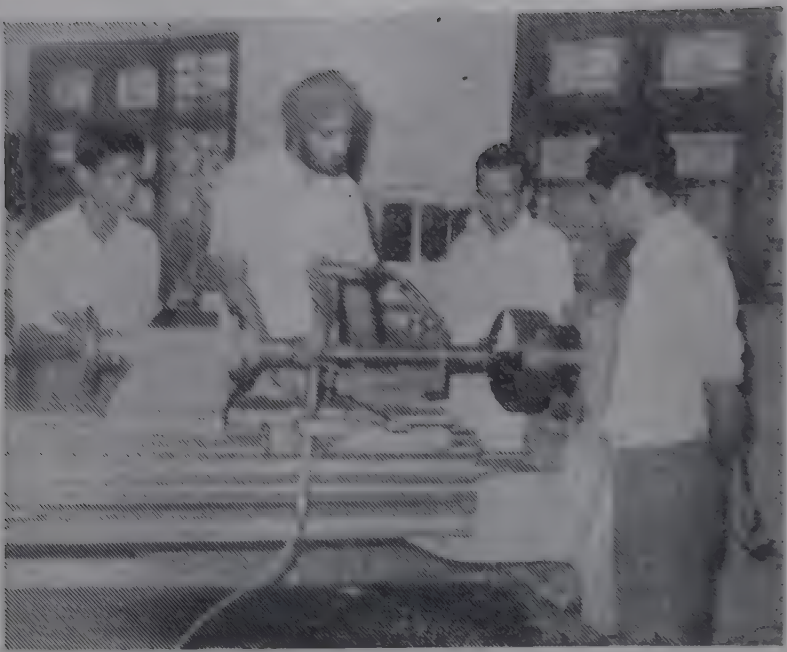
The rate of interest on moneys lent to small industry is also on the high side. Even on the machinery and equipment secured through N.S.I.C. or through direct purchase, the interest that has to be paid on the loans granted by the banks is 9½ per cent. This is certainly on the high side. But the small industry suffers from another major handicap. While the credit is allowed to small industry, instead of charging a nominal rate for the amount of credit guaranteed to them, full rate of interest has to be paid even if the amount drawn is only a small portion of the total amount of loan sanctioned. This is incredible but is true; the banks charge interest not on the actual amount of loan but on the amount of loan sanctioned. This injustice and handicap should immediately be removed.

The general inadequacy of credit, —working capital and term-credit provided by the banks and financial institutions—has led to a proposal that a separate financing institution should be set up specially to serve the needs of the small industry. A Committee that was set up to consider the proposal has come out in favour of its implementation but before a final decision is taken, careful consideration should be given as to whether with the existing financial framework as much of credit as may be needed cannot be provided. During the last three years the amount of credit given by the Bank and the term credit given by financial institutions has increased three fold. With the new emphasis on the credit needs of the small scale sector and the strengthening of the staff in the banks and financial institutions, it may be expected that full needs might be met. Smaller and smaller units are also enabled now to borrow. Considering the burden on the available financial resources in the country and the expense of a new set up, it may not be necessary to go in for a new and separate organization.



*Manufacturing processes and systems of individual units are carefully studied to suggest improvements thereon.*

A question that has been raised in recent months is about the definition of small industry. At present small industries are entitled to free technical services from the Small Industries Service Institute, special financial facilities and for separate allocation of raw materials. But the moment the small industry reaches



*Constant experiments are necessary to find solutions to the varied problems posed by small scale manufacturers. Here, in the Foundry Laboratory of the Small Industries Service Institute, Ludhiana removal of harmful gases and refining the grain size of the aluminium alloy is being attempted in connection with the production of an item for the Defence.*

a stage when its investment on machinery and equipment exceeds Rs. 7½ lakhs, it ceases to be so. A proposal has been made that this should be increased to Rs. 10 lakhs. On this, opinions are bound to differ. Of course, small enterprises 'functioning as ancillary industries' to large scale units are entitled to avail themselves of the concessions and facilities provided the investment on machinery and equipment in such ancillary enterprises does not exceed Rs. 10 lakhs. The capacity of the government to provide concessional facilities will be hampered if the scope of small industries is extended to cover units using Rs. 10 lakhs capital on machinery and equipment. On the other hand, having regard to the price factor, the diversification of small industry, the production of new and sophisticated items requiring larger capital, a case can be made for enlargement of the scope of the difinition. Perhaps the question deserves to be examined carefully before a decision is taken.

Of all the handicaps, under which small industry labours, the most serious has always been the problem of securing raw materials; while the production of small industry was more than one third and often nearer forty per cent, the allocation of scarce raw materials like steel, copper, zinc, aluminium and other materials has always been very low. After the Lokanathan Committee made its report, the government agreed to the principle enunciated therein that the allocation of raw materials should be in proportion to the production contributed by the small industry. The principle was accepted but implementation has lagged behind. In this regard, the recent organizational arrangement by which a representative of the Development Commissioner is associated with the allocation of raw materials, would go a long way to render justice to the small scale sector.

The delicensing of industry accepted as a policy since 1969 by which industrial units with capital of less than Rs. 1 crore and which do not require foreign exchange need not obtain a licence, has been opposed by the small industry sector on the ground that this would affect adversely the principle of reservation of production of specific items. But the fears of the small industries have been allayed by the assurances given by the Ministry that where a firm under the free sector is likely to produce items which are now reserved for the small industry, the firm would be advised not to produce that item. It has also been accepted as a a policy that annually a review would be made of the items which can be further transferred to the reserved sector. The stage is now set for a more rapid expansion of the small industry.

What is the role of small industry and its future? Small industry has a dual role. It produces goods which can be directly sold to the market. This requires positive technical competence, production capacity and effective techniques of marketing. Very few small businesses have developed these capacities. They have no means to study regularly the market, of estimating the fluctuating demands from time to time and of evaluating the changes in the taste and the economic conditions of the people. A few firms however can do this but not many. The role of small industry as ancillary to the larger units will inevitably become more and more significant. It is as ancillary producers, the small industry has the greatest future, and therefore a proper relationship between the ancillaries and the parent units is of special importance. This relationship can be of different kinds. It is possible for the parent units not only to place orders with the ancillary units but also provide them with the needed raw materials and sometime the finances and the technical know-how and even additional equipment, if necessary. The entire production should be purchased by and delivered at a fair and satisfactory price. Thus a captive market is developed. But the problem of ensuring fair prices for the products and services of the small industry

*Where the small units themselves are not in a position to instal a variety of machines, they are advised to have only the basic machinery installed and the necessary processing of their finished products is arranged on the common machinery and equipment available in the SISI or Extension Centre Workshop. Here, work is going on in one such workshop at Extension Centre, Nadiad in Gujarat.*

remains. Provided the parent unit does not exploit the ancillary units, no serious difficulty can occur. But if there is a lack of understanding, the captive ancillary units will undoubtedly suffer. This inequity should be removed; the feeling of inequality between the parent units and the ancillary units in regard to economic strength should be reduced by agreement on the terms of purchase and sale.

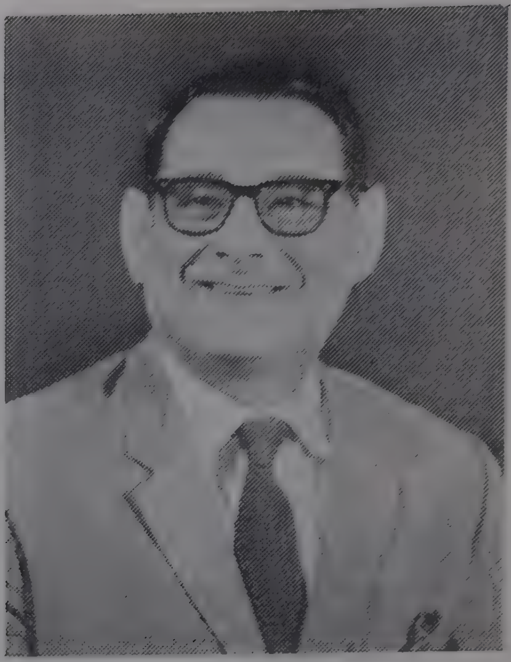
A small unit enjoys certain advantages from the national point of view. In some industries it undoubtedly has a pull over the large sector because its overheads are low and its costs are often 20 to 25 per cent lower than those of the large firms. It is therefore not surprising that many large firms in specific industries do depend upon small industry as ancillaries, for their requirements of components, parts and other small equipment. Hence the permanent role of small scale sector, in the economy of every country, be it developed or developing. While individual units might become larger in course of time and become medium sized industries, there would always be new units coming in within the purview of the small scale sector and this is as it should be. Also the success of a small scale unit should be judged from the fact that over a certain period of time, it gets out of that sector having grown to be a medium sized unit. This is a proper evolutionary pattern which should be encouraged and there should be no attempt to discourage such evolution.

There is, however, one problem which from the social point of view deserves consideration. Many medium sized and large firms set up subsidiary units which are by no means independent; for all practical purposes they are part of the larger firms. In India, especially where a family is still an important social institution, many so called small units and subsidiaries are part of the larger firms although they may be in the names of the sons, daughters, nephews and other near relatives. In providing facilities for these small units, it may be said that in reality the Government is favouring the large. It may also be so and is so, but there does not seem to be any way by which it can be dissolved.

Although it is possible to evolve certain administrative methods to check this development, it is not easy. But where it is clearly known that the financing and management of the small units is really controlled by a large firm, the government can restrict the scope and types of assistance available to such units. But the difficulty of administrative procedures should not be underrated.

Finally, small industries are welcomed and supported not only on economic but on social and even political grounds. Socially big businesses are not quite conducive to the healthy growth of the economy of a vast and populous country like India. The dispersal of the economic power in the country which is now concentrated in a few hands, is to be welcomed. The hundred thousands of small units represent a development which has a social significance. But politically also, it is now clear that in a democracy if economic power is concentrated in the hands of the very rich and of big businesses and of multi-millionaires, it is bound to distort its proper working. The dispersal therefore of economic power will certainly facilitate the better working of democracy. Provided that the small units function efficiently and are judged in terms of the ratios of input to output as well as of efficient utilisation of resources, and maintain high standards of quality, there is every justification for continuing the encouragement that is being given to the small scale sector.

# SOME THOUGHTS ON SMALL INDUSTRY



D.C. KOTHARI
*President*
*Federation of Indian Chambers of Commerce and Industry*

THE significant contribution made by small enterprises to our industrial development is well-known. I am, however, often bewildered by the manner in which the term "small industry" is used. It seems to be some kind of an independent, isolated category, away from the mainstream of Indian industry. That is just not so. Small industry is very much part and parcel of the total industrial matrix. "Marking off small from large industry," as an economist has put it, "is like marking off cold from hot water. Much depends on the purpose." In industry many gradations are possible. The boundary between these is at best either shadowy or arbitrary. The environment also makes a difference. A machine-shop that seems large in Timbaktoo would be considered small in Tokyo. Likewise, a small plant in steel industry may be many times larger than a plant considered big, say, for the manufacture of hosiery. Also, there are different ways of measuring size: by gross or net output, in physical or monetary terms, by capital assets, by installed horsepower, by number of workers, etc. The only valid distinction that can be made between industry in terms of size can be functional. It is, therefore, well to bear in mind that when we talk of industry, we do not try to compartmentalise it. Industry should be looked at as a whole, and in totality.

Industrial development is a secular process. As a country moves through the transitional stage from traditional to more modernised, the character of industry also changes. The artisan industry, or for that matter the household industry, tends to be replaced by small modern factories. As modernisation proceeds, there is a shift in the kind of products which small factories are able to produce. Usually the first to come up are simple processing plants for products of agriculture and forestry, factories producing simple consumer goods, repair shops and the like. When economy moves further ahead, there will be demand to justify the local manufacture of agricultural implements, hand tools, some construction materials, more consumer goods and institutional supplies. Finally, the modern sophisticated type of small industry which we find in large numbers in India today, comes into being. Its rationale is purely economic. And that is why modern small industry is able to subsist along with giant corporations.

It is wrong to presume that huge factory establishments sweep away anything that is small. It is in fact, the other way round. For example, in the United States there are many small industrial establishments. They employ a significant share of all factory labour and produce an important share of total manufactured output. The same holds good to a lesser or greater degree in the case of West Germany, United Kingdom, Japan etc. In fact the growth of small enterprises in these countries has been triggered by what may be called techno-economic considerations. Japan, which is perhaps the best example, never resorted to policies like that of reservation, for this or that sector. According to me there is no reason why the same should not hold good in the case of India as well. Besides, it is often overlooked that smallness is not a virtue in itself. It is only a stage in development. In fact, we must deliberately plan that the scale of production grows and does not stay put. Moreover, by resorting to

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*Small scale and large scale industries are complementary to each other. To make the small and large scale sectors cooperate in developing the economy of the country, the Government have decided to make it compulsory for large scale industries, both in the private as well as the public sectors to agree to farm out parts and components needed by them to ancillary industries in the small scale sector. The public sector undertakings are in fact taking a lead in this direction and have already organised two seminars, one at Bangalore and the other at Ranchi. In the picture above, the Development Commissioner (Small Scale Industries) Shri K.L. Nanjappa is seen addressing the Bangalore Seminar on the Development of Ancillary Industries by Public Sector Undertakings.*

policies like that of reservation, we will virtually be shutting the door on the expansion of small units.

The forces favouring large establishments or firms are well-known. Likewise a number of technical and business forces moderate the trend towards bigness and in quite a few circumstances give the competitive advantage to small plants. For example, products which are light or require only moderate precision are frequently made on light equipment or by relatively simple assembly operations. The same holds good for products in which large labour component or high precision are of critical importance. Small industry is also able to take up production of specialised components or end-items. Again where products cannot be standardised or varied to suit the tastes of different consumers, small industry comes in. Then there is the question of locational factors, transfer costs, etc. Also, they enjoy the advantage of operational flexibility and lower overheads. It is these solid considerations rather than any emotive appeal which provides a sound footing for small enterprises.

In the organic growth of small industry throughout the world, one point strikes out: as economic development proceeds the opportunities open to small manufacturers are shaped increasingly by the growth of large scale industry. Large companies have to introduce new technology and industrial materials, establish sub-contract ties with smaller suppliers and give practical experience to men who

*Hindustan Machine Tools Ltd., Bangalore, play an important role in the development of ancillaries. In particular, they have organised their own industrial estate for their feeder ancillaries. They also supply machine tools for equipping the Extension Centre in the SSIDO.*

as a result are equipped to launch their own small firms. In a country like India, for example, population growth and some rise in income have combined to pull many early manufacturers to large size. Plants engaged in grain milling, forest product conversion, agricultural equipment manufacture, sewing machine or bicycle assembly have often grown rapidly as market expanded. Their transformation of scale induces local manufacture of erstwhile imported components, machinery and supplies. Greater specialization and exchange among plants are correspondingly encouraged. In this process, with the emergence of a varied industrial complex, small firm activities are also transformed. New opportunities may include metal products and machinery, service industries, electrical equipment, industrial rubber and leather goods, wood, glass, non-metallic and chemical products and a number of consumer goods.

Now, let us look at the question from a different and perhaps more important angle. The need to stimulate economic growth has brought out the twin problems of capital formation and investment allocation. Capital is a central factor for at least two reasons. First, investment is the tangible means of introducing changes in a country's productive structure. Second, capital scarcity is most acute in all developing countries. However, it is important to recognise that capital formation is only a part, though an inextricable part, of the wider process of technological change, product development and market growth. The overall contribution of small manufacturers must, therefore, be judged by their capacity to maximize output from capital and other scarce resources, to contribute to capital formation, to provide productive employment opportunities and, more importantly, a training ground in entrepreneurship and organization.

Small manufacturers, by definition, constitute a diffusion of growth points and decision centres. The value of such centres is especially evident in connection with the technical and information elements in capital formation. Capital formation essentially looks to the creation of tomorrow's productive resources. The core of the case for development of small manufacturers along modern lines lies in that this is one good way, among others, to promote more efficient use of resources. This is so because small industry is able to tap resources which may otherwise remain untapped. There is not the least doubt that small industry can be economically efficient. There are of course some problems which must be overcome. Properly encouraged, small industry can be converted into a buoyant and progressive partner in development.

A modern manufacturing economy, is not complete and not as efficient as it should be, unless it has both large units and small. Large plants should not have to build into their own production structure all subsidiary operations that enter into their products. An alert, efficient small industry sector can substantially enhance the efficiency of large factories by relieving them of the necessity of making certain parts or performing certain operations which for one reason or another, the smaller units can provide at lower cost. In other words, promoting various kinds of complementarity is an important aspect of small industry policy.

Small factories serve industrialisation of a country not only by their output of goods, but also by functioning as a nursery of entrepreneurial and managerial talent. If there is reasonable access for as-

*Members of Parliament and other visitors examining the products that could be entrusted to ancillary industries by large undertakings.*

*A close-up of some exhibits at the Ancillaries Seminar on display.*

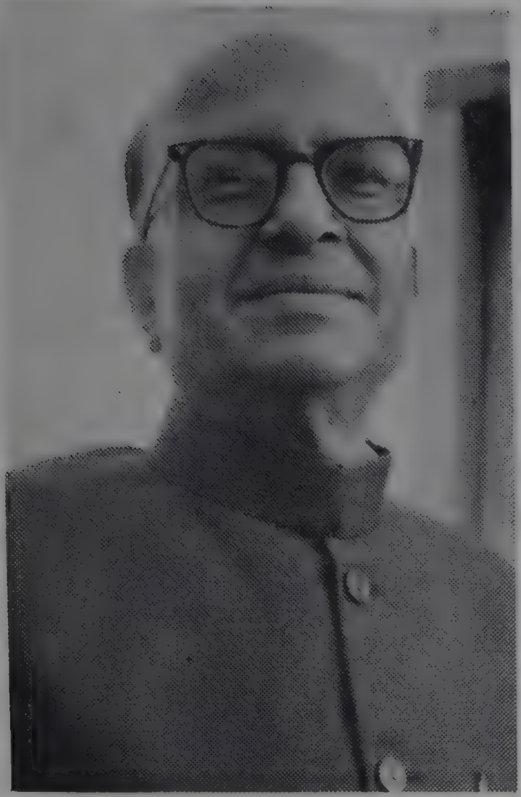
piring small industrialists to services, such as technical advice, credit, management counselling etc. and if there is fair and open competition, small industry provides a testing ground where individuals of exceptional drive and ability can prove their merit. With the growth of their enterprises, they may become medium or large industrialists. They may move into other positions of economic, social, or political leadership. James J. Berna's study of entrepreneurship in light engineering industries of Madras State shows that this process of emergence of entrepreneur-managers from small beginnings was very much in evidence in India. Of the 52 medium sized enterprises studied by him, 85 per cent began with fewer than 50 employees and over one-third as small repair and odd-job shops, many with an investment of only a few thousand rupees and 6 or 7 workers. Of the entrepreneur-managers, 15 had formerly been merchants, 12 were graduate engineers, 6 had been factory workers, 5 rural artisans, 4 manufacturers, 4 cultivators, and 6 miscellaneous. Berna's study also suggests that some kinds of small factories are better incubators or schools for entrepreneur-managers than others. In this respect metal working industries have key importance. It is possible to enter some such branches, with very little technical knowledge. Growth of firms can then take place gradually and by small increments, so that expansion can be financed out of earnings.

There is another point which I would like to touch. Some discussions seem to suggest that small industry development is a quick means of creating large number of jobs at relatively low capital cost. Let us, however, remember that in labour surplus countries like India, the fundamental remedy for the employment problems lies not in this or that sector, but in the whole process of development, creating thousands of new activities both for construction of needed facilities and for meeting the expanding demands of rising standard of living. In this process small industry can and should play a useful part. It is sounder, however, to view small industry as a contributor to the development process as a whole, with a very important by-product of job creation, rather than to view it primarily as a job-creating device.

I may now return to my earlier theme of the complementarity of small and large industries. I am aware that relations between small and large factories remain in part competitive, in a complex and shifting equilibrium that varies greatly from product to product, but they also become to a considerable degree comlementary and even strictly co-operative. There is first of all, the indirect complementarity by which I mean the division of tasks between small and large units which comes about without direct agreements or contracts. It results from the sorting-out process of competition. There is, however, a direct complementarity as well. This is a relation between manufacturing firms in which one systematically uses the product of another as an input into its own manufacturing operations. Such relations are a characteristic feature of the modern industry. This relationship is generally described as ancillary relation. However, ancillary or sub-contract relations have many gradations. For example, small firms may serve more than one buyer and thereby have a considerable degree of true independence of action. In other words, the firm is an independent sub-contractor. There are, however, cases where small firms are wholly or mainly dependent on one large customer which takes all of their output. These firms are subordinated sub-contractors. The first kind of relationship is predominant in highly industrialised countries like America and Europe. The second is very common in Japan. Both patterns are bound to appear sporadically here and there in industrializing countries like India.

The ancillary relationship is growing rapidly in India. Unfortunately what is known about the subject is a very insignificant part of the whole story. Hence the criticism that large industry has not responded adequately to ancillary development. I am firmly of the view that large firms in their own interest and as part of their contribution to national development should give systematic attention to developing smaller manufacturers as suppliers or as industrial customers. Some are already doing so. Others must follow suit. The value of complementarity between small and large firms depends in main on the flexibility of relationship. Therefore, while inter-firm division of tasks and complementarity should be encouraged, it is not advisable to try to force it by legal compulsion or by artificial restrictions that might make the process of development more rigid or produce mere paper compliance. The partnership in progress should be genuine.

> *"Balanced regional growth emerges eventually from a whole series of connected developments, many of which are of a long term-character. Over the short period, advance towards the goal will frequently seem small and incomplete. This is true for individual regions and, equally, for the national economy as a whole."*
>
> Third Five Year Plan



# CASE FOR AN ACTIVE ANCILLARY INDUSTRIES PROGRAMME

B. SIVARAMAN

*Former Cabinet Secretary*
*Govt. of India, New Delhi.*

THE small scale industries organisation in Japan is held up to us as an example to emulate. In 1966, in Japan, there were 591,953 small scale industries as against total number of industries—595,575. Small scale industries, therefore, were 99.4% of the number of all industries in Japan. On the other hand, in India, in 1965, which is comparable, there were 43,657 small industries against a total of 48,456 or 90.1%. Japanese small industries sector production was Rs. 350 billion worth products in 1966 out of a total production of Rs. 700 billion in the industries sector. As against this, in India, in 1965, small industries produced only Rs. 20.141 billion worth as against Rs. 75.96 billion total production in the industrial sector. This shows that per unit production of the small industries sector in India does not compare well with the Japanese production. This also brings up sharply the basic defect in Indian planning, whereby the large factories, in fact, produce substantial number of parts, which are probably best done in the small industries sector. In Japan, in 1966, out of total labour employed of 10.31 million in the industrial sector, 69.8% or 7.19 million were in the small industries sector. As against this, in India, in 1965, only 1.528 million out of 4.65 million or 33% was in the small industries sector. This shows that probably Indian industries are still capital-intensive and not labour-intensive and the full scope of employment in the small industries sector has not been exploited. As our objective is to give employment to a large number of technically and scientifically educated youngmen and manage this in the face of the serious difficulties in getting large scale capital for industrial investment, we must look closely into the development of the industrial sector in Japan and try to emulate such of the methods which appear to have produced both employment and production in small industries sector on a large scale with modest investment of capital.

In Japan large industries producing machines, heavy industrial complex and consumer goods of various kinds sublet a substantial part of the repetitive small items to the small industries sector. The main sector concentrates on production of capital-intensive parts and assembling. The small industries are scattered over the countryside and even in the cottages. Of course, communications and spread of rural electrification are basic requirements for this decentralisation. Japan has both. The system has two advantages. The large factory has perforce to be in an industrially developed area. Land cost is high and all facilities are costly compared to the rural areas. Capital investment required in a large plant to produce a repetitive small item can be many times that required in the small industrial unit in the rural sector. Other overheads can also be high per unit of production in the large unit. Whoever visits Japan and is taken around the industrial works is struck by this vast

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*Shri B. Sivaraman, Former Cabinet Secretary to the Govt. of India inaugurating the Seminar on the Development of Ancillary Industries at Bangalore.*

organisational achievement. 10 years ago, we in India decided that development of ancillaries in this country is the right approach to industrialisation.

Though we took the decision 10 years ago, it has to be admitted that except in special cases, the ancillary idea really did not get across. In our industrial planning, we opted for installation of the basic industries first. Except in the Railways and Defence, we went slow on what may be called consumer articles and consumer durables. Even when we started mass production of automobiles, scooters, tractors and so on, this sector was last in the matter of allocation of priorities for raw materials and essential imports. It is in the mass production line of consumer industries and consumer durable industries that the scope for ancillaries is maximum. As basic industries, we took to machine building. As long as the number of units produced was small, the number of small repetitive items was low. All in all very few industries could really throw up a regular and repetitive demand for small parts which could tempt an entrepreneur to build up an ancillary industry as a regular supplier to the major industry. In the initial stage, when production was organised in the private and public sector for consumer articles and consumer durables, there was not much of a base for the build-up of the ancillary sector. The small industry programme which should really have started the movement was yet to be built up. The industrial estate idea is only about 15 years old and it has taken time to build up. Therefore, the industries that were started, opted to produce all the components in their production themselves. As a result large capital investment has gone into the production lines. They are loath to give up any line of production now even though it is possible to find an entrepreneur to take up production of some of these lines as an ancillary industry. Thereby it is only in the new industries that are being established that we can compel planning on the

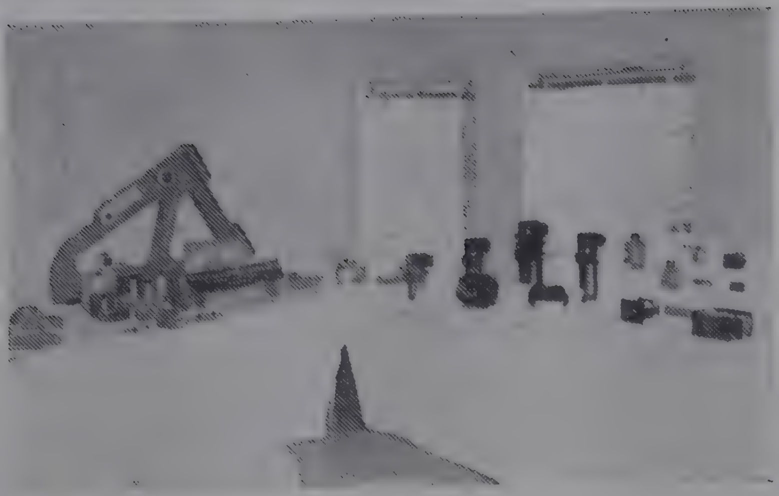
*The question of farming out the manufacture of parts & components needed by the large scale manufacturers, particularly in the Public Sector Undertakings, is being actively considered. Two such seminars have already taken place, one at Bangalore and the other at Ranchi. The picture shows Shri S.M. Patil, Chairman & Managing Director, Hindustan Machine Tools, Bangalore, addressing the Bangalore Seminar and giving his experience on the development of Ancillary Industries. On the right is the large gathering of participants listening attentively.*

basis of an ancillary industry programme. The policy in this matter has been made clear. The Licensing Authority has been given the responsibility to examine proposals for new industries and see that items which can be produced economically in the ancillarly sector are removed from the licence of the major industry that is proposed. So far so good; but it is possible to build up the ancillary sector also in the old plants which have been doing all their components themselves so long.

The old industries were established with a certain production level in view. Demand is picking up in many sectors. A time has come to expand the plant. It is at this stage that an active examination has to be made to build up the ancillary system. The old industry can shed from its production line many items which, when the new capacity is being planned, can give an economic production line in an ancillary industry. Thereby the shop space and machines which were being used for these items will be available for the expansion of the plant capacity. Construction of additional shop floor will thereby be minimised. Shop floor used for manufacture of items which can be done in the small sector adds to production charges. The new arrangement rationalises the space for its correct use, namely, production of the bigger units which require sophisticated and expensive shop ancillaries.

The obvious question is "When the cost of production in the small industries sector is much cheaper than the cost in the major industry, how is it that the major industries have not gone all out to reduce their production costs by sub-letting, when the facilities are now available?" Of course, one answer is to point to their initial investment which has provided for the production of all their components in the factory itself. But, as explained in the last paragraph, this can be set right at the stage of expansion of capacity. Yet we find proposals for expansion coming up with the same request for making all the components in the main factory. The reason can be traced to an aspect of our fiscal policy. Excise duty on production is the largest single tax in our fiscal system and it is a growing tax. Excise is levied on all types of production. If an ancillary industry supplies parts to a major factory, then it has no such tax addition. The production of the major factory is anyhow charged to excise in the final value of the production; but the part of their own production escapes double taxation. If the advantage in cost in producing a part in the ancillary sector is less than the excise duty payable on the part, it is obvious that the major factory will not be tempted to sub-let a part of production to an ancillary. Thereby, the taxation system is to a large extent inhibiting the growth of ancillaries. As a result, new industrial ventures continue to put in capacity in producing all the components in the main factory, thereby over-capitalising production. There appears to be a case for setting right this anomaly by providing for rebate on excise paid on parts in the final excise duty on the production line of the factory.

If the fiscal policy is inhibiting the growth of ancillaries, how is it that in some of the consumer durables like scooters, motor cycles, automobiles and so on, there is quite a lot of decentralisation? The price of the final product is relevant only as long as there is competition in production of the material between several producers. In monopoly items, and the items on which prices are fixed even statutorily on the cost plus basis, the cost of individual items that go into production becomes irrelevant. If added to this there is a system of captive ancillary units, whose cost of production is rarely



*An exhibition of parts and components which could be manufactured by small enterprises was also arranged for the Bangalore Seminar. Here is a view of the exhibits.*

investigated, we can understand the situation. This should not blind us to the basic fact that the taxation system does inhibit the growth of ancillaries in a healthy production programme. What we are aiming at is a healthy ancillary industry programme.

There are two enterprises in the public sector which can actively support an ancillary industry programme. Our Railway system and our Defence are both needing a lot of supplies of individual items of sufficient bulk, which can be developed in the ancillary sector. The Ministry of Railways had taken up an aggressive programme of sub-letting production of repetitive small parts. On the other hand, the Defence Organisation has always been loath to sub-let parts of its production to the private sector on the ground of secrecy. On a close examination, it will be found that many of the parts can be done in the private sector without necessarily breaking the secrecy of the projects. Further, experience shows that production of armaments and machines for Defence leads to an annual demand of substantial spare parts. Supply of spare parts has been made difficult because the parent factories may not have provided for this demand in their plan. Further, this is the sector which can be easily sub-let to an ancillary industry system. The problem obviously needs closer examination.

With all these handicaps (the most serious one being the difficulty of raising adequate capital for our projects) on the one hand, and the need on the other to increase employment opportunities for the technically trained youngmen, it is clear that a determined drive has to be made to develop our ancillarly industries. In the public sector we cannot afford to over-capitalise ventures in order to manufacture everything from a pin to a plane under one roof. Many worthwhile projects are waiting in the queue for allocation of funds. It is therefore, imperative that all the methods to reduce heavy capital investment in large projects and to encourage small ancillary enterprises should be taken up in right earnest. If we hope to do this, there are certain other stumbling blocks which we have to get over.

In the initial stages of our development of the ancillary industry idea, we have not distinguished between a genuine ancillary industry and encouragement of the small scale industry. In other words, no serious attempt was made to bring about a durable functional nexus between large industrial enterprises and selected small scale units which could thrive and grow as efficient ancillary units. Public sector projects faced with the directive from the Government have tried to identify items of production which can be sub-let. Then offers were made to small industry in general. Any small industry which took up the order, soon found that there was no continuity of their getting the order for the next year. The cost of tooling for the project had, therefore, to be discounted in one year's supply. This put up costs. In the few cases, where small industry was specially started, for producing one or more of these items, it soon found itself high and dry because future orders went to others.

If an ancillary industry has to be developed, it is imperative that the entrepreneur has some guarantee of off-take for atleast three to five years subject to the price being fixed on certain principles. There is general agreement that this is necessary; but the normal rules of tender in Government are against this method except in the matter of Defence supplies. The Department of Defence Supplies have some freedom in this matter, where new items have to be developed. The Hindustan Machine Tools Ltd.

at Bangalore, M/s Enfield India at Ennore in Madras and M/s Escorts in Delhi have tried the method of tying-up supplies for a few years and the system has progressed well. The Hindustan Machine Tools is a public sector plant, and the other two are private sector plants. For greater flow of entrepreneurship in the ancillary sector, this block has to be removed from the normal rules of tender for Government supplies. The method is now under scrutiny and it is hoped that an answer will be found soon.

Ancillary industry suffers from the same disabilities as the small scale industries. They are not large enough generally to allow for consultancy in designing and building the industry. Its raw material supply in a controlled situation becomes difficult. Testing equipment for ensuring quality becomes too capital-intensive. For small industries, the problem was attempted to be solved by location of industrial estates all over the country. The estates were expected to have consultancy service and maintenance facilities. Testing facilities were to be provided if the estate was substantially of allied type of industries, which can have common testing facilities. With all the good-will, the system did not finally provide the facilities except in rare cases. The problem was solved to some extent by some of the enterprises in the estates taking up the work of maintenance and spare parts production for the others. In the ancillary industry, all these problems can be solved much more easily, given the will and the cooperation from the major industry.

As the ancillary industry is to produce a part related to the production of the major industry, the major industry must have amongst its experts, people who can sell consultancy service to the new enterprise at reasonable charges. The major industry perforce has a strong maintenance wing. It should be possible for this wing to help the ancillary industry with spare parts supply and maintenance service at reasonable rates. Testing equipment in the major industry must have relation to the production programme and as such must fit the part or parts that the ancillary industry is going to produce. If, therefore, the major industry is willing to help the ancillary industry at reasonable rates, a big part of the problem of the small industry is solved. This get-together requires that the ancillary is close to the major industry, so that facilities are available nearby and the experts need not have to travel long distances which will increase the cost of their service to the small unit. It is this aspect which was not fully understood in the initial stages when the major plants tried to build up ancillary units all over the country.

Raw material supply is one of the greatest difficulties of the small units. If they require imported raw material, the problem becomes more acute. Importing small quantities of raw materials is almost an impossibility. As a result, small enterprise has to pay fancy prices for their raw materials and thereby the cost of production increases. If the major industry can include in its inventories, the requirements of raw materials for the small units in its ancillary estate, it helps the small unit in using its capacity fully and thereby reducing the prices. It has been recommended that the public sector plants should take over raw material supply to their ancillaries. Unfortunately, because of difficulty about ways and means funds, many public sector plants avoid this responsibility. This will be a retrogade attitude.

Assuming that the public and private sector industries are keen to encourage in a massive way the growth of ancillary industries to support their production, how do we set about building the ancillary sector? As the location of the ancillary industry has to be close to the major factory, in most cases, it will mean a new enterprise. Even if there is an existing small scale unit in the neighbourhood, it has to diversify suitably its line of production. Viewed from the employment angle, the latter type is not desirable. As for encouraging new enterprises, what is the type of entrepreneur that can be attracted to this venture? It was suggested that the unemployed engineers and technicians can join together and set up a suitable small enterprise with the help of bank funds. But an engineering graduate fresh from the college or a technician from the technical school will not have the entrepreneurship experience which is necessary to be able to produce goods economically. However great the will, experience is a basic necessity. When the Hindustan Machine Tools Ltd. at Bangalore started their ancillary industrial estates, they followed a new line. The engineers and technicians in their factory were persuaded to set up small enterprises as ancillaries. They heeded the advice and collected some trained and some untrained workers and started the new ventures. As they were helped through the teething period by the main factory, they soon established reasonable production capacity. The small units in the ancillary estate withstood the effect of recession, thereby showing that they were self-reliant and successful units. Such a method of promoting ancillary enterprises, therefore, appears to be worth a trial.

The method suggested above has also got another advantage. In all our industries, which have been established, mostly in the last 10 to 15 years, the engineers and technicians have reached the end of their normal promotion prospects. Unless the system of wages is drastically changed or other opportunities for promotion are found, there will be frustration. The new method of encouraging entrepreneurship throws up an opportunity to such of those workers who are enterprising enough to set up their own new enterprises and ensure a better career for themselves. A good entrepreneur or worker will certainly be able to earn much more than what he would have got in the normal course in the parent factory. Another advantage is that the trained personnel will be able to attract young engineers and technicians to the ancillary sector and thereby increase employment opportunities for them. The vacancies arising in the main factory may also give some employment opportunities to fresh graduate and technicians. By this method, frustration among the experienced technical personnel may be avoided and greater employment opportunities for the new graduates and technicians may be provided. The Hindustan Machine Tools' experiment appears to be worth emulating.

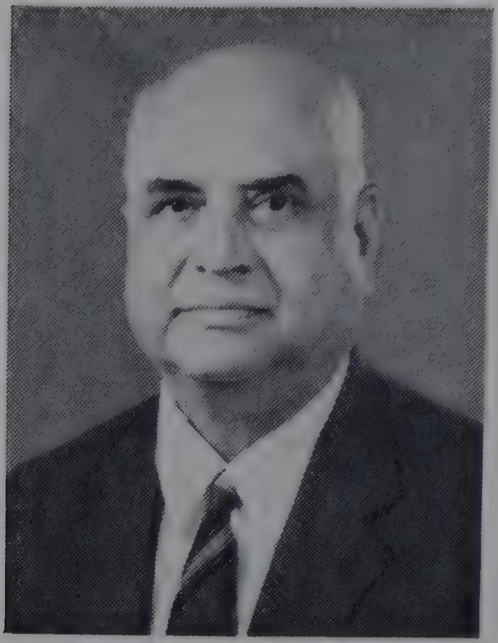
The electronics industry offers good scope for ancillary production in a large way and requires highly skilled technicians and scientists to man the production of a wide range of sophisticated electronics components. Per capita investment of Rs. 5,000 in this industry is comparatively low and is a favourable factor for setting up a small enterprise. Bhabha Committee, which went into the whole problem of organising the development of Electronic Industry in India reported in 1966, as follows:—

> "In countries with an advanced electronics industry, more and more of the equipment is produced by sub-contracting sub-assemblies of the equipment to smaller units. This enables the total turn-over of equipment in a large plant to be increased without greatly increasing the labour force, because a good part of the production is already achieved in the manufacture of sub-assemblies in separate plants. This results in specialisation and also greater efficiency of production."

The electronic industry has a great future and already in the field of entertainment electronics, production has overstepped the forecasts of the Bhabha Committee. A more aggressive indigenous production programme linked up with manufacture of sub-assemblies in ancillary industries and small industries appears to be warranted. A start is being made by the Department of Atomic Energy in organising ancillaries around their production complex at the Electronics Corporation of India Ltd. in Hyderabad. Other large producers in electronics can usefully enter this field.

With the Japanese example before us, we can see that an aggressive ancillary industries programme will enable us to increase industrial production substantially with relatively low capital investment. Employment opportunities for the skilled and semi-skilled personnel, scientists and technicians will also be generated on a large scale. Therefore, it is necessary for us to make determined efforts to pursue the programmes in all earnestness. Between the small scale industries directorate and the State Directorates of Industries, liaison is being stepped up rapidly with a view to help small scale industries. If the large industries can be brought into the liaison both in the public and private sectors, it should be possible to raise the tempo of ancillary industrial production. Let this be our immediate objective.

# HOW TO "MANUFACTURE" ENTREPRENEURS IN BACKWARD AREAS



K.L. NANJAPPA
*Development Commissioner, Small Scale Industries*
*New Delhi*

## I. Small Scale Industries and Their Policy Objectives

SMALL scale industries in India include enterprises with investment upto Rs. 0.75 million in machinery and equipment only. These industries are distinguished from Handloom, Handicrafts, Coir and Khadi and Village Industries, Sericulture, etc., in that they use modern equipment and modern techniques of production and management. The scope of these industries has been modified from time to time to suit the changing circumstances of manufacturing in small scale sector.

Small scale industries have, in our development plans, been assigned a vital role in the development strategy, on account of three main considerations. Firstly, the development of this sector is conceived to provide employment opportunities for surplus labour force available in the country at a relatively smaller capital cost. Secondly, small scale industries are considered both useful and effective for mobilising untapped scarce resources of capital and entrepreneurial skill that may otherwise remain unutilized in our vast country. Thirdly, these industries are expected to ensure the diffusion of productive industrial activity in order to (a) avoid concentration of industry and resultant flow of population to the metropolitan cities causing socio-economic and political maladies of concentration; (b) create employment opportunities in the areas where large additions to labour force accrue year after year and foster balanced development of all parts of the country; and (c) foster progressive rural economy through the establishment of economic and functional links between the rural or semi-urban areas and the big cities.

## II. Entrepreneurial Skill and Industrial Development

Whatever the strategy of economic growth followed by a developing country, the fact remains that industrial development does not occur automatically. And, in the ultimate analysis, it occurs mainly on account of constant striving of human agencies that are responsive to business incentives and motivations. In industrial parlance, this responsiveness of human agencies has been termed as "entrepreneurship". Speaking precisely, entrepreneurship is essentially constituted by (a) the ability to discover investment opportunities and/or the ability to seek information leading to the same; and (b) the ability to organise the enterprise, i.e., to purchase production factors and set the enterprise on its feet and then either retain or transfer into competent hands the ultimate responsibility for the successful running of the enterprise. Anyone who possesses these requisite qualities can be said to have entrepreneurial skill for initiating and running an industrial enterprise.

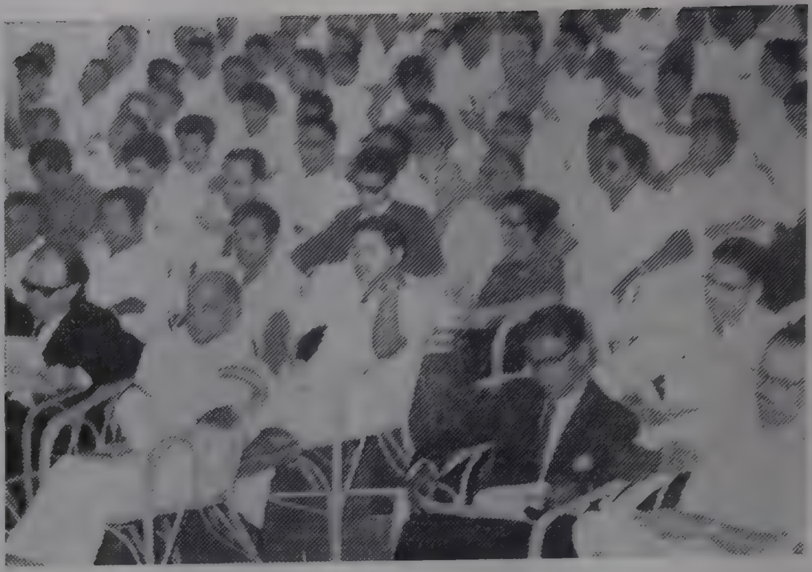
The International Labour Organisation's Report on "The Economic Background of Social Policy including Problems of Industrialisation" refers to the lack of enterprises in these words: "Among the principal factors which have favoured or retarded the growth of modern industries in Asia, the most important so far is doubtless the general lack of enterprise. Men of enterprise ready and able to respond to market opportunities have been scarce in all Asiatic countries". Whatever enterprise is available in the developing countries, is generally utilised in the traditional avenues of investment and/or remains under-utilised.

Availability of entrepreneurial skill depends on the human attitudes towards work, saving, risk taking, etc. These attitudes depend on the complex socio-economic and cultural factors. These can well be changed to make human agencies more responsive to motivation and incentive in a desired direction. In India, these are being constantly directed into the field of small scale industries through the medium of what are known as the Intensive Development Campaigns.

## III. Twin Objectives of Intensive Campaigns

(*a*) *Intensive Campaigns and Motivating Entrepreneurship:* These Campaigns are intended to (i) motivate entrepreneurship; and (ii) encourage the dispersal of industrial activity all over the country. These campaigns aim at mobilizing, stepping up of the entrepreneurial skill through proper motivation and facilitating access to new investment opportunities in small industries sector. The campaigns also help in checking the diversion of entrepreneurial skill to traditional lines by channelising it into industrial activities.

(*b*) *Intensive Campaigns and Dispersal of Small Industries:* In spite of the phenomenal progress in the growth of small scale industries recorded since the middle of fifties, these industries have mainly come up at a dozen of places of industrial concentrations in the country. Such a concentration is encouraged by the availability of certain pre-requisites for launching industrial ventures at these places. Assistance and facilities provided by the various promotional institutions have mostly been obtained by small enterprises located in big cities and towns. As much as 60 per cent of the total hire-purchase assistance has been provided by the National Small Industries Corporation in 10 principal cities of the country. In fact, nearly half of the total assistance has gone to four metropolitan cities alone.



*Entrepreneurs are made from all walks of life. Entrepreneurs, during the Intensive Campaign organised in Kerala, assembled to select suitable line of manufacture.*

As a result, there has been sharp sectoral as well as regional imbalances in industrial development, particularly in the small scale sector. Industrialising less developed areas has many-fold advantages. It contributes towards the absorption of idle man-power into some form of gainful employment, removal of the existing rural-urban disparities, the utilisation of available resources in rural areas which otherwise would remain unexploited, the saving of such social overhead costs as are required in moving people from rural areas to big towns and taking people to the industries instead of bringing industries to the people. In short, it conforms to the economic and social approach towards development in the country.

*Rural as well as Urban, educated or not, employed and unemployed, they come from everywhere. Entrepreneurs gathered in large numbers during the Intensive Campaign organised in Kerala for the inaugural meeting.*

*Planning the layout: Central and State Governments, Development Corporation, Industry Associations, Local Organisations are all involved in this Gigantic Endeavour. Shri K. L. Nanjappa, Development Commissioner (SSI), Shri R. Poornam, Director SISI and Shri C.R. Sundaram, Chairman (NSIC) are engaged in initial planning of the Campaign.*

## IV. Modus Operandi of Intensive Campaign

Intensive campaign is merely a practical approach for taking the message of industrialisation to the very door steps of potential entrepreneurs all over the country. They are apprised of industrial opportunities in the country and help available to them from various Institutions and agencies for setting up small enterprises. An intensive campaign as such provides the means to make human attitudes respond to the non-traditional fields of investment and enterprise. Its main operational stages are outlined below:—

(a) Firstly, a selection is made of the area where such a "Message of Development" is to be spread; and secondly, a techno-economic survey is conducted to assess the potential for industrial development and possibilities for expanding existing industries or establishing new ones. It is undertaken by a team comprising of engineers and industrial economists. The official and non-official agencies of the area concerned with the development of small industries are informed in advance of the arrival of the team for survey and its purpose. Similarly, other Institutions and Government offices which can furnish statistics pertaining to other developmental activities like those connected with agriculture, sericulture, handicrafts, etc. are also informed. In addition, a cross-section of the community consisting of Members of Parliament, Members of State Legislative Assemblies and District Boards are also informed about the proposed survey. The programme for survey is circulated among the Collectors and Revenue Authorities, whose co-operation is sought for the purpose. The campaign has the approval of the State Government.

(b) After the survey is completed, a report

*Motivating entrepreneurs through pre-Campaigns before the final Campaign. A pre-Campaign meeting where every participating agency explains the facilities offered by them, held in Orissa.*

embodying the results of the survey is prepared for circulation and use by the prospective entrepreneurs.

(c) A Campaign is initiated at a meeting generally presided over by a member of the State Government. Among those present at the meeting are the Revenue Authorities and Development Officers of the area as well as non-officials connected with the different developmental and other organisations. The occasion is utilized for explaining, in detail, to the officials, non-officials and the public the various facilities offered by the Central Government for starting small scale industries and discussions are initiated on the subject. To obviate the impression that facilities available for and gains from small industries are elusive and insubstantial, the example of extensive and coordinated facilities and the sizable gains made by the successful entrepreneurs are cited.

(d) The Small Industries Service Institutes, the National Small Industries Corporation Limited and the State Directorate of Industries participate in the Campaign. During an 'intensive campaign' officials from these departments approach the potential entrepreneurs at their doorstep for apprising them of the types of industries they can start and the facilities which they can obtain from various sources. In fact, information is provided right from the stage of planning of the unit to the marketing of the end-product. In the normal course, an entrepreneur from an area has himself to go from one department to another to get his work done. He even sometimes thinks that applications sent to the State and Central Government Departments are not considered promptly or properly. In an intensive campaign, however, all the concerned officials are available to him on the spot for doing necessary work for him. He is the centre of attention for all engaged in assistance work. An attempt is also made to dispel all his doubts and to educate him with regard to the benefits that will be accruing to him

*"Process of manufacturing, demonstrated at your very doors." Mobile Workshops conduct demonstration for the benefit of entrepreneurs to take a decision for becoming an industrialist.*

and to the society, in case he sets up a small scale industry.

(e) Mobile vans fitted with diesel-driven machines for carpentry, smithy, leather work, engineering job work, processes for the preservation of fruits and vegetables go with the campaign teams, and the machines are put in operation to prove the efficiency as well as ready adaptability of mechanisation. Films are shown to emphasize the important part the machines play in many parts of the country so that people realise that industrialisation in their case is also a practical proposition. As motivation along these lines proceeds, the model schemes on the prospective small industries (i.e. resource-based and demand-oriented) and other related literature prepared by the Office of the Development Commissioner, Small Scale Industries, are kept on display and offered for sale. These give factual data such as, capital involved, machines required, probable margin of profit etc., about the different small industries. Certain schemes, not already available, are made by technical staff for the purpose. Thus, through lecture, demonstration, visual display and presentation of data, the desire in the local entrepreneurs to invest in small industries is built up in stages.

In order to assist the entrepreneurs in obtaining further information, technical staff of the Small Industries Service Institute form themselves into groups for offering specializsed advice in different industries. The potential entrepreneurs are informed about the facility afforded by the National Small Industries Corporation Ltd., under the Hire-Purchase Scheme.

(f) Visits to existing local industrial units are arranged and the current position and problems of the units are studied and suggestions concerning measures for improving and expansion are expressed. Entrepreneurs are helped in completing the forms for hire-purchase, direct import of capital goods and also in making declarations, if any, before Magistrates. Necessary verifications are obtained from the officials of the State Directorate of Industries on the spot.

(g) *Exhibition*: An exhibition of small industry products is invariably organised at the venue of the Intensive Campaign to inform the entrepreneurs of

*"You have only to select." The various schemes and some of them specially prepared for an Intensive Campaign are being displayed.*

the area of the wide range of products being made in the small scale sector of industry in the country and to stimulate their interest in setting up a small enterprise of their choice, based either on the demand for particular products or on the utilisation of raw materials/by-products available in their area. The exhibitions also have an 'information centre' to answer enquiries on the various aspects of development of small scale industry, scope for new small enterprises in various lines of production, approximate investment required for specific small enterprises and last but not least the various types of facilities and assistance available to small industrialists and entrepreneurs to expand, modernise, diversify existing small enterprises as well as to set up new ones. Besides this, there is also the display and sale of various publications of the SSIDO such as Model Schemes, Technical Bulletins, Reports on the Survey of particular small industries etc.

Close to the exhibition site, Mobile Workshops of the SSIDO conduct continuous demonstrations of the various types of simple power-driven machinery suitable for the production of quality goods with greater productive efficiency in such small enterprises as carpentry, blacksmithy, production of leather footwear and leather goods, glass and ceramic products etc., etc.

The exhibitions and demonstrations have been found to be very effective visual media for conveying the 'message of the progress and the potentialities of development of small scale industries' to the entrepreneurs in industrially backward areas and these have also helped to kindle the spark of entrepreneurship in many of them which in short is the very purpose of conducting an Intensive Campaign for the development of small scale industries in a particular area.

### V. Some Flashes of Intensive Development Campaign in Kerala State

An All Kerala Intensive Campaign for the promotion of small industries, was conducted at Ernakulam in July-August 1967. The State and Central Governments, National Small Industries Corporation, Kerala, the State Financial Corporation, the State Bank of India and its subsidiary State Bank of Travancore and a large number of promotable small entrepreneurs participated in the campaign. The campaign was carried out intensively in all the districts of Kerala for nearly two months and it produced stable enthusiasm among small entrepreneurs in particular and popular awakening in general.

As a result of this Campaign, as many as 1806 applications were received by the NSIC for the supply of machines and equipment valued at Rs. 70 million on hire-purchase basis. Of these applications, 1050 or 58% of the total were accepted by the Corporation. The accepted applications were for machinery worth Rs. 44 million or 63% of the total value of machinery applied for. It is noteworthy that ever since the inception of hire-purchase scheme in 1955, the Corporation has accepted 1125 applications for supply of machines valued at Rs. 27.6 million (exclusive of intensive campaign cases) whereas in the course of less than two months of this particular Intensive Campaign, the Corporation accepted 1050 applications for supply of machines worth Rs. 44 million. It is a pointer of the enthusiasm created by the Campaign for the expansion and establishment of small scale units in the State.

It will be useful to mention here that the Corporation generally rejected such applications as related to such engineering and wood-based product lines where adequate capacity was already in existence. Further, entrepreneurs whose applications were rejected, were in fact advised to choose different prospective product lines.

As against 1050 applications accepted by the

*Looking up for the right project: An industry information service is an integral part of the Campaign. "An entrepreneur is not always born but often made".*

Corporation, earnest money was deposited in case of 373 applications for machines and equipment valued at Rs. 78.21 lakhs. As against this, machinery worth about Rs. one crore has already been delivered to nearly 300 applicants.

Detailed investigations were carried out in respect of 100 sample small scale units selected at random out of those who had got machines on hire purchase basis, in order to evaluate the impact of this Campaign on industrial growth in the State.

As a result of the Intensive Campaign, over four hundred entrepreneurs came forward to establish new small scale units, and six hundred existing units applied for machinery on hire purchase basis for the expansion of old and the addition of new items of production. Thus this facility has not only strengthened the existing units by affording them opportunity to rationalise and procure balancing equipment but has also promoted a large percentage of new small scale units in the State.

### *Type of New Units*

Among the engineering group of industries, applications were accepted for 'general engineering workshops, automobile parts and machinery, spare parts, auto-servicing repair, steel furniture, gates and grills, aluminium utensils, agricultural implements, marine engines spare parts, tin containers and wire nails. Under chemical group of industries, bone meal, coconut shell powder, fish meal, cattle feed, insecticide formulations and pharmaceuticals' units entered the small scale sector.

Besides, a large number of new small scale units were established to utilize the local available resources such as rubber, coconut shell, animal bones, marine products, wood, tapioca, etc. Based on these resources, industrial activity in the State was initiated to undertake fish canning, fruit and vegetable preservation, tyre retreading, manufacture of crepe rubber, extruded rubber goods, coconut shell powder, bone meal, bakery products, etc.

Table I below gives at a glance the relative importance of new units which have come up as a result of the intensive campaign in different industry groups:

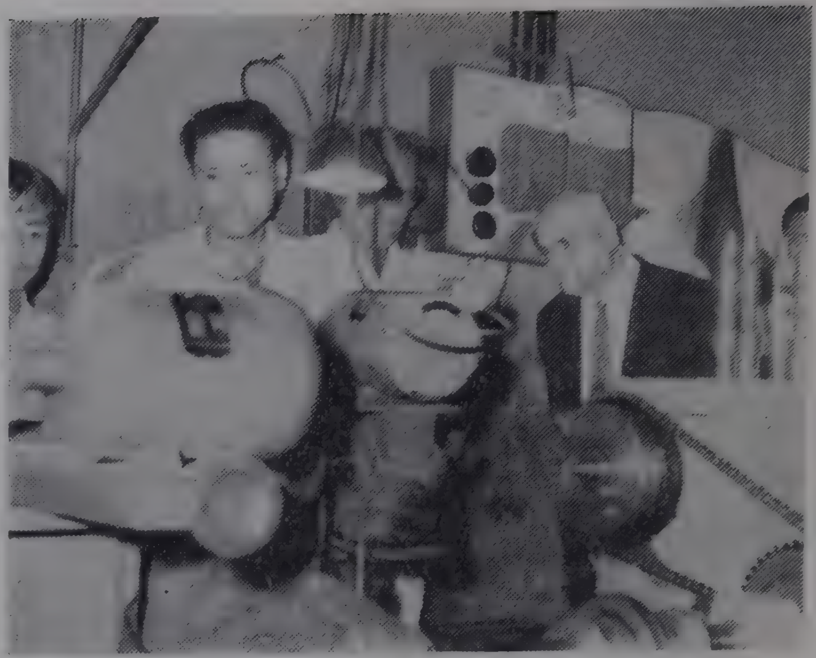
TABLE I

| | *Industry Group* | *Percentage of Units* | |
|---|---|---|---|
| | | *Old* | *New* |
| 1. | Printing and Binding | 83.4 | 16.6 |
| 2. | Auto-repair & Maintenance | 42.2 | 57.8 |
| 3. | Building Hardwares | 66.6 | 33.3 |
| 4. | PVC Shoes | 50.0 | 50.0 |
| 5. | Rubber Goods and Tyre Retreading | 89.0 | 11.0 |
| 6. | Plastic Articles | 66.7 | 33.3 |
| 7. | Steel Furniture, Gates and Grills. | 40.0 | 60.0 |
| 8. | Bakery | 33.3 | 66.7 |
| 9. | Pharmaceuticals | 100.0 | — |
| 10. | Wood Based and Wood Sawing | 46.0 | 54.0 |
| 11. | Miscellaneous | 50.0 | 50.0 |
| | All Groups | 57.0 | 43.0 |

It follows from above that the intensive campaign has helped in promoting a large number of small scale units for manufacture of market-oriented items as well as for processing the local raw materials and resources.

*Investment*

The Intensive Campaign helped the 91 simple small scale units to procure machinery on hire purchase basis to the tune of Rs. 2.80 million and all the relevant units to the extent of Rs. 10 million Investment in case of sample units increased from Rs. 6.01 million in 1967 to Rs. 11.46 million in 1969 i.e. more than doubled. About 40 per cent of the growth in investment of small scale units was due directly to the supplies of hire-purchase assistance while the remaining 60 per cent was made out of their own resources. In other words, the seed capital procured on hire-basis stimulated mobilisation of investment by small entrepreneurs themselves to the extent of 150 per cent of the size of the former. On this basis, it might be estimated that the hire-purchase assistance of the order of Rs. 10 million provided till the end of 1969 in the State as a result of the Intensive Campaign, is likely to have stimulated mobilisation of additional Rs. 10.5 million by the entrepreneurs themselves in industries in the State.



*Existing units are also helped. Shri K.L. Nanjappa, Development Commissioner (SSI) with his technical experts offering technical consultancy to a small scale unit during a campaign at Hyderabad (Andhra Pradesh).*

Industry-wise percentage increase in investment as a result of the Intensive Campaign on the basis of sample small scale units are set out below:—

TABLE II

| | *Industry* | *Percentage increase as a result of Intensive Campaign* |
|---|---|---|
| 1. | Printing and Binding | 28.7 |
| 2. | Auto-repair and Maintenance | 482.4 |
| 3. | Building Hardwares | 31.2 |
| 4. | PVC Shoes | 520.9 |
| 5. | Rubber Goods and Tyre Retreading | 81.3 |
| 6. | Plastic Articles | 1172.0 |
| 7. | Steel Furniture, Fixture and Welded Articles. | 330.7 |
| 8. | Bakery | 53.5 |
| 9. | Pharmaceuticals | 109.6 |
| 10. | Wood Based and Wood Sawing | 52.8 |
| 11. | Miscellaneous | 74.4 |
| | All Categories | 114.6 |

It follows from above that demand-oriented industries especially those concerning the relatively new product lines such as plastics, P.V.C., steel furniture, etc. recorded a phenomenal growth in their investment and that certain resources based industries too like rubber goods, bakery, wood based and the like had substantial growth in their investment in a period of less than 3 years.

*Employment*

Employment opportunities provided by the sample small scale units also recorded a noteworthy increase from 709 before the intensive campaigns in 1967 to 1178 in the end of 1969, indicating a rise of 66 per cent. Compared to the growth of 115 per cent investment, the rise of 66 per cent in employment is understandable on two accounts. Firstly, additional investment in the form of balancing equipment does not always give rise to direct employment immediately and at later stage may bring to bear indirect employment and secondly, there is always a time lag between growth in investment and rise in employment opportunities.

Industry-wise percentage growth in employment as a result of Intensive Campaign on the basis of sample small scale units is as under :

TABLE III

| | *Industry* | *Percentage increase in employment* |
|---|---|---|
| 1. | Printing & Binding | 25.0 |
| 2. | Auto-repair & Maintenance | 127.2 |
| 3. | Building Hardwares | 104.1 |
| 4. | PVC Shoes | 137.5 |
| 5. | Rubber Goods & Tyre Retreading | 16.9 |
| 6. | Plastic Articles | 166.6 |
| 7. | Steel Furniture, Fixture & Welded Articles | 483.3 |
| 8. | Bakery | 73.7 |
| 9. | Pharmaceuticals | 5.2 |
| 10. | Wood Based & Wood Sawing | 204.1 |
| 11. | Miscellaneous | 54.2 |
| | All Categories | 66.1 |

It follows from above that Steel Furniture, Fixture and Welded Articles, Wood Based & Wood Sawing, Plastic Articles, and Auto-repair and Maintenance recorded very high rates of percentage increase in employment, whereas other industries registered a moderate growth in respect of employment opportunities.

On the basis of employment stepped up in case of sample small scale units, it has been estimated that additional occupation/job opportunities to 1,700 persons have since been provided by 300 small scale units which received hire-purchase assistance to the tune of Rs. 10 million. Incidently, impact of such a welcome magnitude on employment opportunities has been generated by nearly 30 per cent of the total number of units fostered by the Intensive Campaign and 23 per cent of the total hire-purchase assistance so far provided. When all the units promoted by the Intensive Campaign start functioning and the entire hire purchase assistance that the NSIC has agreed to make available is provided, a single Intensive Campaign in Kerala would, on conservative basis, help in generating employment opportunities for about 7000 persons.

*Production Capacity*

Production capacity of the sample small scale industrial units was augmented from Rs. 22.81 million in 1967 to Rs. 34.15 million in 1969, registering a growth of nearly 50 per cent. Total industrial output capacity added in the small scale sector as a result of the Intensive Campaign till the end of 1969 has been estimated at about Rs. 22.0 million.

Industry-wise percentage growth in output capacity as a result of the Intensive Campaign on the basis of sample small scale units is as under :

TABLE IV

| | *Industry* | *Percentage increase in output capacity* |
|---|---|---|
| 1. | Printing & Binding | 20.0 |
| 2. | Auto-repair & Maintenance | 56.3 |
| 3. | Building Hardwares | 137.3 |
| 4. | PVC Shoes | 344.0 |
| 5. | Rubber Goods & Tyre Retreading | 41.9 |
| 6. | Plastic Articles | 394.7 |
| 7. | Steel Furniture, Fixture and Welded Articles | 710.0 |
| 8. | Bakery | 133.3 |
| 9. | Pharmaceuticals | 14.2 |
| 10. | Wood Based & Wood Sawing | 90.0 |
| 11. | Miscellaneous | 49.3 |
| | All Categories | 49.6 |

*A great leap towards industrialisation. Intensive Campaign in Kerala was inaugurated by Shri K. Raghunatha Reddy, the then Hon. Minister of State for Industrial Development, Govt. of India. The former Hon. Minister of Industries (State Govt.) of Kerala, T.V. Thomas and others are seen in the picture.*

It follows from the above figures that the highest growth in output capacity has been recorded by the Steel Furniture, Fixture and Welded Articles industry followed by Plastic Articles, PVC Shoes, Building Hardwares and Bakery industries.

### *Actual Production*

Production of the sample small scale units revealed a moderate increase from Rs. 13·7 million before Intensive Campaign in 1967 to Rs. 17.65 million in the end of 1969, indicating a rise of about 29 per cent. Growth in production is relatively moderate when compared to the rise in investment and employment opportunities. Such is primarily the case, since the majority of the units surveyed have had only recently installed the machines and equipment obtained by them on hire-purchase basis and the capacity utilization has yet to reach the viable level in several cases. However, even at a low capacity utilization level, Intensive Campaign units have added an estimated annual-industrial output of Rs. 16 million. When all the units promoted by the Intensive Campaign start functioning and the entire hire-purchase assistance that the Corporation has agreed to provide is supplied, the campaign in Kerala would help in turning out additional manufactured output to the tune of Rs. 70 million or so annually.

Industry-wise percentage growth in output on the basis of sample small scale units is as under :—

TABLE V

| | *Industry* | *Percentage increase in output* |
|---|---|---|
| 1. | Printing & Binding | 4.9 |
| 2. | Auto-repair & Maintenance | 311.7 |
| 3. | Building Hardwares | 14.3 |
| 4. | PVC Shoes | 112.0 |
| 5. | Rubber Goods & Tyre Retreading | 15.5 |
| 6. | Plastic Articles | 273.3 |
| 7. | Steel Furniture, Fixtures & Welded Articles | 920.0 |
| 8. | Bakery | 145.8 |
| 9. | Pharmaceuticals | 17.9 |
| 10. | Wood Based & Wood Sawing | 11.5 |
| 11. | Miscellaneous | 31.4 |
| | All Categories | 28.9 |

Steel Furniture, Fixture & Welded Articles industry tops in respect of production growth rate.

*"An entrepreneur is not always born but often made": Shri R. Poornam, Director, SISI, Trichur with the help of his technical staff offer technical consultancy during the Campaign. It is here the entrepreneur discusses his scheme and takes a final decision.*

*Spatial Dispersal of Promoted Small Scale Units*

Besides the growth in industrial capacity, production investment and employment opportunities made possible by the Intensive Campaign, yet another most noteworthy and welcome result achieved through this programme relates to the success achieved in promoting small scale units on dispersed basis. It has been observed from the information collected that nearly 54 per cent of the sample units were located in the district towns of the State whereas the remaining 46 per cent units were promoted at smaller towns and places other than the district towns. Such a widely disperesed growth of small scale units made possible by the Intensive Campaigns within the State, is advantageous in-so-far as socio-economic maladies of over-crowding in big cities are avoided and mobilisation of entrepreneurial skill and local capital dispersed all over the State is made possible. Results achieved in Kerala, especially, in regard to the location of small scale units have revealed that Intensive Campaign' by promoting dispersed industrial activity on small scale basis throughout the State has made possible to take job opportunities nearer to the people rather than taking people to the jobs.

Besides, dispersed growth of small industrial units is also likely to foster functional linkage between

*"Results then and there": Shri K.L. Nanjappa the then Director (H.P.) NSIC announcing the decisions taken by the Acceptance Committee during the Campaign at Hyderabad.*

*"Everything is done in making entrepreneurs": The technical staff of SISI completes application form for machinery on Hire-Purchase basis in all respects for an entrepreneur.*

semi-urban areas on the one hand and big cities on the other whereby small scale units at semi-urban centres engage themselves in the processing of resources available in the neighbouring rural areas and also provide repair and maintenance services for the agricultural and farm implements and units in big cities specialise in the manufacture of sophisticated and relatively new end-product.

### VI. Assistance rendered by Small Industries Service Institute, Trichur, State Directorate of Industries, Kerala and Credit Institutions

A large measure of success achieved in fostering the growth of small scale industries as a result of the Intensive Campaign was due to the fact that all the agencies concerned with the development of small scale industries were dedicated to make the Campaign a success. For instance, whereas preliminary field investigations were conducted by the Small Industries Service Institute, Trichur and NSIC to suggest prospective product lines to the promotable entrepreneurs, the State Director of Industries charged all the District Industries Officers with responsibility of finding the prospective entrepreneurs in their respective districts and ensure their participation in the Campaign. Small Industries Service Institute, Trichur, in turn, groomed these promotable entrepreneurs by arranging practical demonstrations in the Institute Workshops and Extension Centres, displaying the items that can be profitably taken up for manufacture on small scale basis by them, providing techno-economic guidance in planning and starting the small scale units and preparation of project reports free of charge etc. Once an entrepreneur had made up his mind on the basis of literature, information and guidance provided to him in the course of Intensive Campaign, credit institutions like NSIC, the State Bank of India, State Financial Corporations come forward to help him in making the applications for his credit needs. In other words, at the first stage the promotable entrepreneurs are enthused to participate in the Campaign, at the second stage he is helped in taking the quick decision in the selection of product-line for manufacturing activity and at the third stage he is provided with all such facilities as are needed by the entrepreneur in the establishment and operation of his small scale unit. In fact, the arduous and time consuming exercise of going from one agency to another is done away with in-so-far as all the agencies concerned with the development of small scale industries are there to help the promotable entrepreneurs in a coordinated and integrated manner.

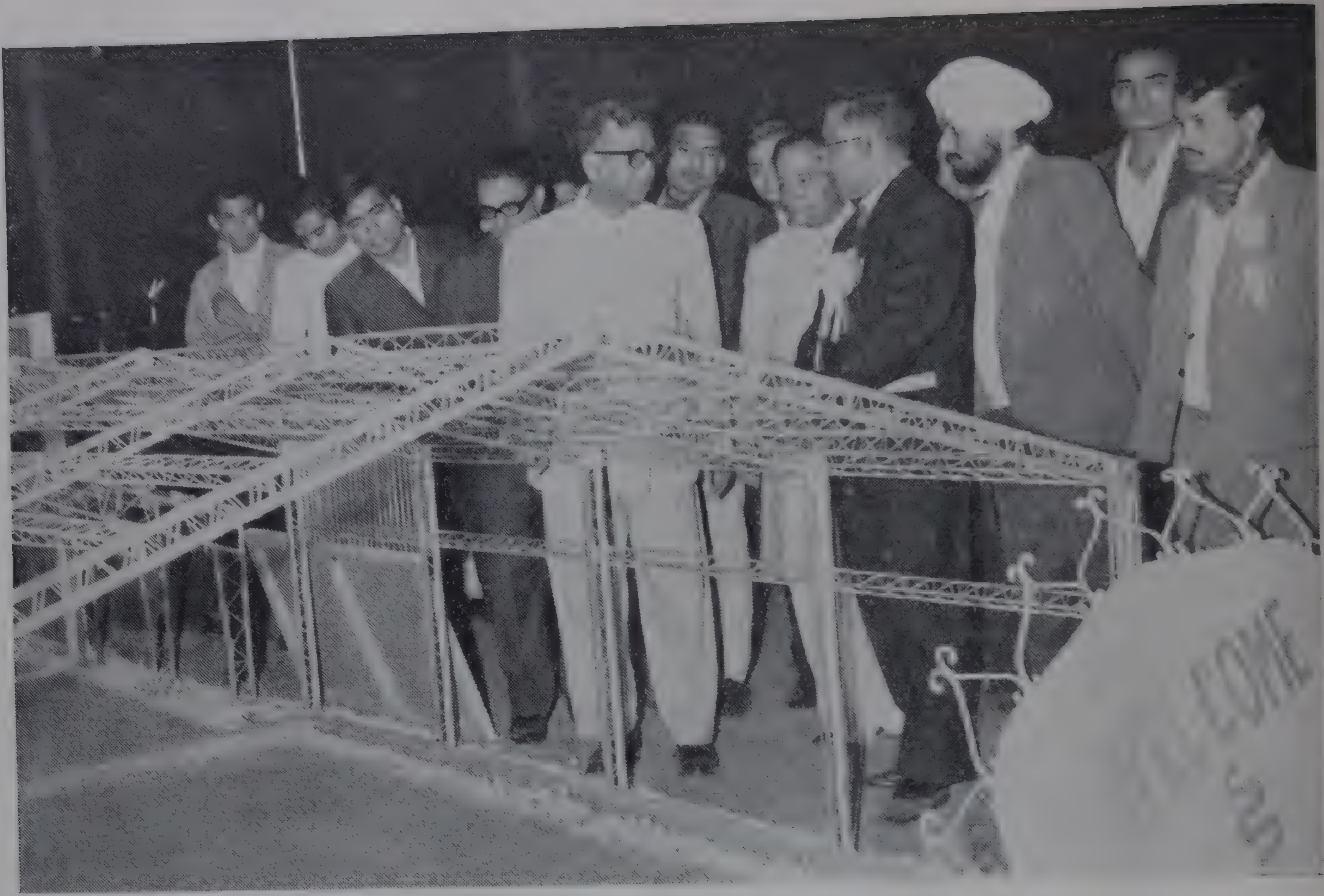
*"Now or never" benefits are given on the spot: An Acceptance Committee consisting of the various Govt. and non-Govt. agencies under the Chairmanship of NSIC meet to take a decision on the spot on all applications received.*

In this context, it is noteworthy that nearly fifty of the surveyed units had obtained assistance from more than one agency. For instance more than a quarter of the units had received credit accommodation from the State Bank of India and its Subsidiaries and almost all the units promoted had received techno-economic guidance in one form or the other from the Small Industries Service Institute, Trichur, in addition to machinery and equipment supplied to them on hire-purchase basis. Furthermore, the Director of Industries, Kerala had set up a cell in the State Directorate of Industries to follow up the Intensive Campaign cases and review the progress made in the establishment of new units and rationalisation of the existing ones with the assistance of the officers of the Small Industries Service Institute, Trichur.

In short, it is the coordinated scheme of assistance under the aegis of the Intensive Campaign right from the stage of identifying a promotable entrepreneur till setting up of a small scale unit which has made the Campaign a real success.

## VII. Results Achieved through Intensive Campaign in other States

Results achieved in Kerala through an Intensive Campaign are indeed commendable and have in fact imparted an enviable status to the programme. Nonetheless, Campaigns in other States have as well made distinct contributions towards the development of small scale industries. As in Kerala, so in other parts of the country, these Campaigns have gone a long way in attaining the twin objectives of the programme, namely, mobilisation of entrepreneurial skill and dispersal of new small scale units.



"Welcome to see what you also can do." An exhibition organised during an Intensive Campaign.

This fact is amply brought out by the figures set out below:—

TABLE VI

| *State* | *Hire Purchase applications received since 1956-66* |  | *Hire Purchase applications received in Intensive Campaigns* |  |
|---|---|---|---|---|
|  | *No.* | *Value (Rs. million)* | *No.* | *Value (Rs. million)* |
| Bihar | 141 | 9.1 | 344 | 25.3 |
| Orissa | 96 | 5.5 | 241 | 12.3 |
| Madhya Pradesh | 2077 | 48.8 | 876 | 68.6 |
| Andhra Pradesh | 584 | 23.1 | 2151 | 109.8 |
| Rajasthan | 150 | 8.3 | 253 | 18.3 |
| Kerala | 1022 | 33.3 | 2001 | 55.0 |

Table VI reveals at a glance that in case of all the six States, number and value of applications received for machines on Hire-Purchase basis during ten years (i.e. 1956-66) were smaller than the number and value of applications received in the course of a few weeks of Intensive Campaigns, except in the case of Madhya Pradesh where number of applications received at the time of the Intensive Campaign was smaller while value of the applications was higher and in line with other States. This points to the immense response of dispersed potential entrepreneurs for setting up of small scale industries as a result of different Intensive Campaigns.

## VIII. Precautions for Conducting Intensive Campaigns

Having explained the techniques of Intensive Campaign and its efficacy, we may now briefly narrate some of the important precautions that need be taken in order that the Campaign proves really successful and effective.

↑ *"Clearing up a point": Shri K. L. Nanjappa, Development Commissioner (SSI) clearing a point of an entrepreneur outside the venue of the Campaign at Kerala.*

Firstly, adequate arrangements must be made by the developmental agencies that the enthusiasm generated in the field for development of small scale industries by the Campaign does not fritter away due to unexpeditious handling of queries and follow up action on the industrial projects of the prospective entrepreneurs. It is, therefore, necessary that Intensive Campaign cases are dealt with on priority basis and constant vigil is kept on follow up action. To this end, a separate cell, on the lines one created in the Directorate of Industries, Kerala, need be created.

Secondly, if a large proportion of proposals received from the prospective entrepreneurs as a result of Intensive Campaign do not mature or end in fiasco, there is nothing to get diffident about these Campaigns. This is the cost which development agencies in the developing countries may not grudge to incur for mobilising the scarce entrepreneurial skill and for preventing it from diversion into non-entrepreneurial activities. Moreover, those prospective entrepreneurs who travel only half way

*It means not only bicycle parts but bicycles too, many lines of manufacture invite an entrepreneur: A section of the exhibition organised during the Intensive Campaign at Kerala.* ↓

*The Intensive Campaign is a cumulative work where all agencies join to render assistance at a time: L. to R. Dr. V. Venketanarayanan, D. I. Kerala; Shri K.V. Raghunatha Reddy, former Union Minister of State, ID, IT and CA; Shri K. L. Nanjappa, DC (SSI); Shri C.R. Sundaram, former Chairman, NSIC; and Shri T.V. Thomas, former Minister for Industries, Kerala.*

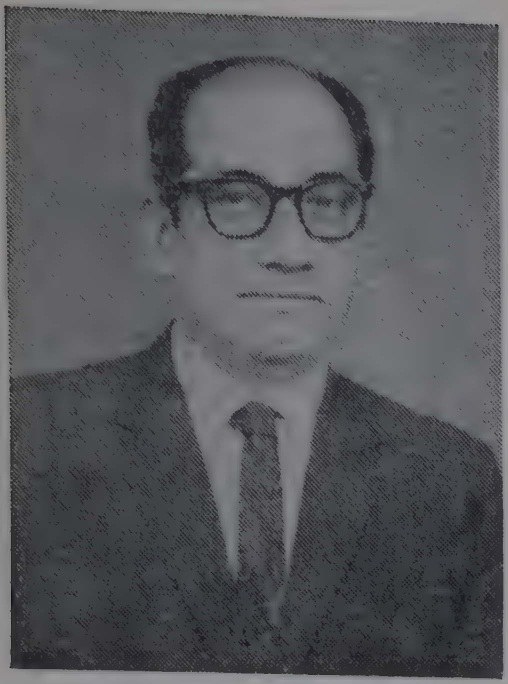
to setting up of small industries may traverse the full journey after some others in the area have achieved success in their industrial ventures.

Thirdly, it is necessary that only such product lines are suggested and promoted for industrial activity in the area as have good or excellent prospects, since "*demonstration effect*" is extremely potent in small towns and cities. A success or failure of small industrial venture at these places is bound to have a multiple bearing. It is, therefore, in the fitness of things that for a couple of years a proper watch and care are taken for the development of such industrial ventures which have come up as a result of Intensive Campaigns. Units may be assured of timely assistance in the supply of scarce raw-materials, credit and financial accommodation, marketing facilities, participation in Government Purchase Programme and the like.

Fourthly, in order that only such product lines are promoted for industrial activity as have good growth potential, it is essential that before conducting an Intensive Campaign in an area, a thorough techno-economic study of the area is conducted by a team of competent officers. The survey report made available as a result of such a study should not only bring out various prospective product lines for industrial activity in the area, on the basis of a penetrating analysis of local resources and demand angle, but should also include detailed project reports on prospective product lines. The latter should provide useful initial material for use by the prospective entrepreneurs. These project reports may include details regarding plant and machinery, workshop space, efficient lay-out plan, raw materials and other inputs required and may also include a brief economics of operating the projects bringing out clearly the profitability of the venture, etc.

Fifthly, project reports or model schemes on different product lines, as far as possible may be so prepared as to suit the different size ranges of investment. This would enable the prospective entrepreneurs with access to varying sizes of financial resources to conceive an industrial activity and would thereby bring about greater mobilisation of scarce entrepreneurial skill.

Lastly, small industrial units need be recommended on a selective basis keeping in view the size of the towns as would foster the establishment of functional links between semi-urban centres on the one hand and big cities and towns on the other.



# ELECTRONICS IN DEVELOPING COUNTRIES

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## Introduction

ONE of the fastest growing branches of modern Science is Electronics and its varied applications in Science and Technology. The spectacular moon-shot triumphs registered in the last decade would not have been possible without the many electronic devices and inventions that were innovated in many countries. There are indications that the growth rate of electronics will continue to be as great in the seventies as it has been in the past three decades—ever since 'Radar', first developed in the U.K., became a prime factor in winning the Battle of Britain.

## Strategy for Development

It is, however, of a limited aspect of the growth of electronics that we shall confine attention in this article viz. the part electronics can play in promoting and accelerating the industrial growth of any developing country, particularly in the small sector. A significant feature of the post-war decade is the desire, universally expressed by all nations, to undertake programmes of industrial development so as to raise the per capita income and the standards of living of its peoples. The distinction formerly made between the 'colonies' and the 'mother' countries seems to become fast out-dated; with the emergence of a free India in 1947, much of Asia became independent and in the fifties the process spread to Africa where more than 30 new nations with a combined population of 200 million have become free. In all these states, there is the aspiration to set up new industries—large, medium and small so as to provide greater employment opportunities to the people and to utilise the skills and raw materials available in those countries. In this process of growth, developing nations are seeking assistance from the advanced countries, international agencies and other developing nations who may be slightly ahead in the race for development.

It is the theme of this paper that while the strategy for industrial development in any country needs to be "tailored" to the circumstances prevailing in that country, electronics-based industries will form, in most developing countries, an important element of that strategy. We shall enumerate a little later the reasons for this conclusion, but let it be said here that such a strategy needs to be carefully worked out and will not evolve by itself. Such a strategy needs the co-ordinated efforts of a number of agencies to provide the right climate and facilities for the emergence of a strong 'electronics' sector in the industrial pattern of the country.

One of the remarkable features of the sixties has been the explosion, if one may use a popular word, of the 'knowledge-based' industries. These are industries which were barely in the laboratory a decade earlier but such has been the compulsion of events that industrial applications of these processes came out immediately. Foremost amongst such industries are the Electronic Devices, the Computers, the Integrated Circuits, the Process Control Instrumentation Tele-metering etc. Computers which made their appearance in their early fifties have now become

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The views expressed in the paper are purely personal.

a multi-billion dollar business employing a large number of people and speeding up industrial processes. It would seem that this trend of increasing importance for 'knowledge-based' industries will continue in the seventies and any country which seeks to develop fast, must 'leap-frog' into the new electronics age rather than try to lag a decade or more behind. For the challenge of the seventies is remorselessly, inexorably on us . . . and no country can afford to ignore it.

**Case Study of Japan**

It is here that a Case Study of the so-called "Japanese miracle" is of great interest; it is not the purpose of this brief paper to discuss so complex a subject, fascinating as it is. But one point needs to be made that apart from other factors, both extrinsic and intrinsic, at the heart of the remarkable growth of Japanese industries between 1955 and 1965 is its identification of key areas which would take it forward and to concentrate on them so as to raise the national economy as a whole significantly. In the early fifties, as Japan was just recovering from the severe battering it had received during the war, its shrewd industrialists and policy-makers identified electronics and optics as two high-productivity areas which would suit the genius of the people. These were also the areas where the frontiers of knowledge were being pushed and Japan became an early starter in this process. Perhaps, the circumstances were fortuitous-or perhaps, it was a tribute to the ability of the country's leadership to analyse so well the technological scene and its likely impact on industry. Whatever the reason, by concentrating on these two areas, Japan has registered remarkable growth rates averaging more than 11% over a decade and going upto 16-17% in individual years. Its electronic products have become famous the world over and are able to compete with those of the USA and other Western nations in their own markets. Trade names such as Sony, Cannon and National—virtually unknown two decades back have become status symbols in the developing countries. In sheer statistics, the volume of production in Electronics in 1968 has reached more than $ 5,000 million of which $ 400 million is in Computer, $ 60 million in IC Units and $ 1,000 million in Color TV Sets. A large proportion of this is in latest devices for which Japan; depended almost wholly on imports a decade back. Nor was this an entirely new strategy for Japan, for a century earlier, soon after the Meiji restoration, it was the lowly 'silk worm' that provided the motive force for the start of the industrialisation in that country.

Japan is however not alone in this tremendous growth in the electronics field. Hong Kong and Singapore have been registering similar successes, though on a lesser scale in the same field. In South Korea, there has literally been an electronic explosion in the last five years, production having more than quadrupled to about $ 75 million in 1969.

**Indian Experience**

In India also, there has been an increasing interest in the role of electronics in the economic development of the country. In 1963, Dr. Bhabha, the famed atomic scientist, headed a prestigious committee that formulated a report which was submitted in 1966. The "Bhabha Report" has since become the standard point of reference in all discussions on this subject; and its calculations for the future of Electronics in this country have been discussed at a widely publicised National conference on Electronics held at Bombay in March 1970. I shall not go over the ground covered by the conference except to draw attention to, what in my opinion, are two significant comments, as we look at the Bhabha report from the vantage point of 1970: One is that the growth-rate for entertainment electronics, envisaged in the Report was much less than the rate actually achieved....which is perhaps a reflection of the considerable prosperity that has been built up in some of the rural areas consequent on increased agricultural production leading to increased demands for consumer goods. The annual production of such products, which is now Rs. 730 million (approximately $ 100 million) was expected in the Report to go upto Rs. 2,000 million by 1975 but indications are that it will hit the Rs. 5,000 million mark. A second comment is that while the Report discusses all the other applications of electronics such as Communication Electronics, Medical Electronics, Defence Electronics, Nuclear Electronics, Industrial Electronics there is no discussion of the growth of Television in the country—but if trends in other countries are any guide, transistorised low-cost TV will trigger a new 'crest' in the electronic 'wave' even as 'Transistor Radios' sparked a revolution in Radio Listening about a decade back.

Perhaps, the plain fact is that Electronics is so fast growing and developing that it is indeed impossible for any Committee, however eminent or well-informed, to forecast the tremendous possibilities that lie ahead. We seem, literally, to be on the edge of a big 'breakthrough' which might revolutionise our pattern of living—who would have thought in the early fifties (and I am saying this having worked as a broadcast

*In product range the small scale industry sector has much to its credit—Shri K.L. Nanjappa, DC (SSI) explaining to the Prime Minister Smt. Indira Gandhi the significant progress of small scale industries in the manufacture of sophisticated electrical appliances.*

engineer at that time) that within two decades, no 'pan-shop' in any town feels complete without the inevitable transistor radio blaring away the latest 'film' song or that it will penetrate remote rural areas linking them for the first time with the modern world. One can well conceive that as standards of living rise in rural and semi-urban areas, there will be an even greater demand for the entertainment gadgets. Even Television, now confined to a single city in India, will soon cover other urban areas; and whether there will be national coverage through a satellite or by more conventional 'earth-bound' techniques, there is no doubt that the possibilities for new consumer demand for these products are immense. It is, therefore, of importance to visualise as far as possible the likely trend in consumer demand in the next ten years and to plan to meet that demand through establishment of new units. It is here that electronics will play a major role in industrial growth for the 'electronic explosion' will not be just a demand for radios or tape-recorders; a radio in a village is a link with the outside world—and the outlook of the entire community is affected. There is a demand for the good things of life and the community becomes conscious of the many things that can make life pleasant and comfortable. Hence, the Electronic Revolution will not merely generate new demand for its own products but will have its impact on the entire spectrum of consumer goods, once considered a luxury but becoming common-place day-by-day.

**Electronics Industry Stimulates Growth**

One may list briefly the features that makes an electronics-based industry particularly suitable for a rapid growth of developing economies. These have been started often before but they are re-stated here so that one may keep these features in mind in formulating any specific plan for the development of such industries:

(*i*) *Labour-intensive*: Most electronics items are labour-intensive and are not readily amenable to mass production. This is a valuable asset for a developing country which can utilise its surplus labour force and can compete with the advanced nations where wages are high and labour is scarce. Creation of more employment opportunities is one of the most important tasks in many Asian and African countries and hence any industry which is likely to employ more labour for the same productivity is to be preferred.

(*ii*) *Skill-oriented* : Electronic industry is skill-oriented and demands technical and manual skills in assembly and wiring. Hence, the value added in any product is comparatively much larger in an electronic item than in a purely mass produced product. It is in the productive utilisation of skills already available in many developing countries that the electronics industry scores over the others. Nor are these skills hard to obtain—most of them are based on simple manual dexterity which can be easily learnt.

(*iii*)*High Employment Potential*: Many of the electronic assemblies need skills which women already have and it is, therefore, possible for such industrial units to employ women on a large scale. Japan, for instance, has specialised in training large numbers of girls who have graduated from high school at 17 or 18 years and are willing to work in factories for 3, 4 or 5 years before settling down in marriage. Such workers are given a minimum of training 3 to 4 days—for performing the repetitive job assigned to them and do not demand high wages nor the other benefits that permanent industrial workers demand. The cost of production is thereby reduced making it possible to compete on more than equal terms with other more advanced countries.

(*iv*) *Low Capital Investments*: Most of the electronics-based industries need small capital investment which is again an important feature in a country where capital is scarce. The building required is just any covered space while the machinery is simple and inexpensive. The low capital cost also makes it possible for operations to be conducted on a limited scale.

(*v*) *Small and Medium Industries Possible*: The development of electronics industries will be largely in the small and medium sectors and will, therefore, disperse industrialisation as widely as possible. Most of the items are capable of being manufactured on a small scale and quality of products can still be ensured. Besides Radio receivers (and even TV sets), Public Address Equipment, Intercom sets, Hearing Aids and Desk Calculators can be made in the small scale sector. Electro-medical Equipment and Testing Apparatus such as Signal Generators, Oscillators, VTVM, etc. are essentially items that have to be made in small lots, often custom built, to suit the specification of the particular client. Other types of products are Induction and HF Heating Devices, Transreceivers, Paging Equipment, Industrial Control —monitoring and inspection—and power supplies. Besides these, there are a host of components such as resistors, potentiometers, band changers, switches, condensers, capacitors, loudspeakers, oscillators, coils, semi-conductors and printed circuits which will be needed in large quanities and for which production is to be set up. These are indeed items simple to manufacture but requiring a certain degree of precision which is to be maintained. It is in conforming to these specifications that the success of an enterprise is judged.

(*vi*) *Utilise Local Materials*: Most electronic items require readily available local raw materials which can be utilised for the purpose. Many of them are foot-loose and can be located almost anywhere. There are no large transportation costs for either raw materials or finished products.

(*vii*) *Decentralised Operation Possible* : Unlike the large industrial complexes required for most industries, electronic products can become viable on a small scale operation. They do not require large quantities of power, water or other industrial infrastructure nor do they need any complicated disposal system. The operations are clean and compact and can be carried out in a hall which can be airconditioned to provide comfort to the workers. Decentralised operation makes it possible to locate such industries in semi-urban areas instead of crowded urban and metropolitan areas. Unlike the 19th and early 20th century technology, which needed operation on a vast scale, electronic industry enables dispersed location away from congested townships.

(*viii*) *Stimulate Indigenous Entrepreneurship*: Capital investments being limited, electronic industries can be set up by persons technically oriented but without large financial backing. What is required is a qualified entrepreneur who is reasonably knowledgeable and committed to the manufacture of the product. Thus the industry is an ideal vehicle for stimulating entrepreneurship in rural and semi-urban areas about which so much is talked about now. It provides the possibility of developing a new class of entrepreneurs who can take advantage of the new consumer demand in the rural areas. It has been estimated that due to the "green" revolution, there is likely to be generated an additional income, in the rural areas in India in the next three years, of the order of Rs. 20,000 million ($ 2,600 million) much of which will need to be spent on consumer goods of which electronic items are an important part. Similar conditions obtain in many developing countries where imported agricultural techniques and high-yielding varieties of rice and wheat have brought a new wave of prosperity to the rural areas. Hence, with a potential market of this magnitude, electronic industry forms an ideal vehicle for stimulating entrepreneurship in rural and semi-urban areas.

### Nine Point Programme

A specific strategy for the development of the electronic industry will necessarily have to be adapted to the actual conditions obtaining in the country. However, the broad elements of this strategy can be listed as follows:

(i) A high-level policy-decision will have to be taken for ensuring fullest support to the development of the industry in the country. For this purpose a clear policy-statement may also have to be made so that the importance attached to this industry is made widely known in the country.

(ii) An Electronics Development Board should be set up consisting of representatives of the government agencies concerned as well as private industrialists who are likely to play a major role in the setting up of new enterprises. Such a Board should preferably be presided over by the Minister concerned with Industry so as to ensure that its recommendations receive consideration at the highest level.

(iii) Expert consultants should be associated with the Development Board so as to prepare a Master Plan for the Development of the industry in the country. These consultants may be provided by international agencies and should preferably be those who have done similar work in other developing countries. It will be the job of such consultants to prepare a Master Plan for a 10 year period which would provide a broad perspective in which the development can take place.

(iv) A special Implementing Agency will have to be set up both at the Ministry level as well as in the field. This will have to be staffed by first class administrators and technical experts so that the problems met with in the establishment of new enterprises dealing with electronic components are sorted out without any delay. The implementing agency together with the consultants will have to identify specific items of equipment as well as parts and components that are required to be manufactured and provide suitable incentives to prospective entrepreneurs to set up these enterprises. It is in this area that considerable thought has to be given as to the type of demand that is likely to be generated and the commercial viability of new schemes for the manufacture of these items.

(v) One common form in which the incentives could be provided is by setting up industrial estates and functional estates exclusively for the manufacture of electronic products at suitable locations in the country. Besides the normal facilities such as developed land, water and power there is need for specialised assistance in the form of testing and consultancy services which are often denied to the small scale entrepreneur. Since the electronic industry is primarily based on precision, it is necessary that such assistance is provided in a generous measure by the government to these industrial estates so that the small scale industrialist can take full advantage of them and produce parts and components which are qualitatively tops for the consumer market.

(vi) A Prototype Development Centre may also be set up at the functional industrial estate so that the technical personnel working in them can keep in constant touch with the research that is being conducted both within the country and abroad. Since the rate of obsolescence in electronic development is considerably high, there is need for a constant look at the equipment being manufactured in the country and prototypes being built which should incorporate some of the latest advances in the field. These could then be leased out to the prospective or existing entrepreneurs so that they could be produced on a commercial scale. The Development Centre should also have a training programme so as to train technicians and workers at various levels who are engaged in this industry.

(vii) Special financial assistance may have to be provided for new industries in the electronic field. This could be routed through the National Development Bank of the country or through other existing development agencies already functioning in the country. The assistance may take the form of a certain percentage of equity capital being contributed by the Development Corporation in new ventures in the electronic field and subsidy on the interest from commercial banks to such ventures.

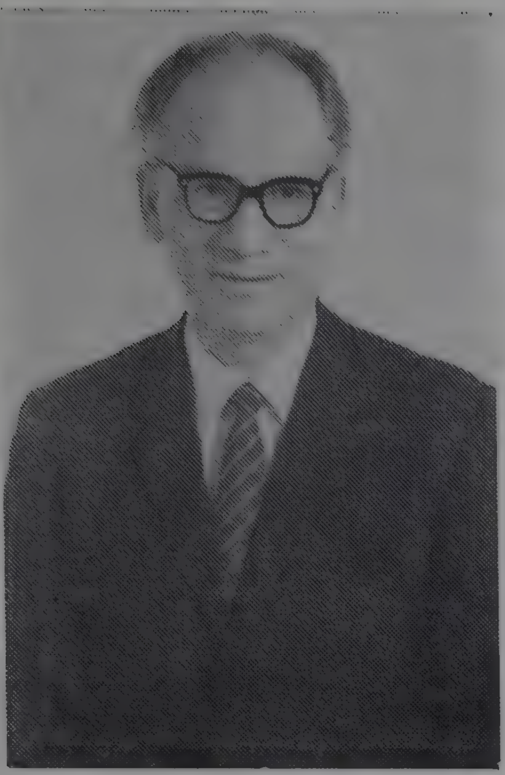
(viii) The marketing of the products manufactured in the electronic industry may also require some assistance through specialised government agencies. It may be necessary for a government certification-marking to be provided to these products so that the customer is ensured of satisfactory quality.

(ix) Since the electronic industry is basically technology-oriented, it is necessary to provide a steady supply of technically qualified personnel to the industry. For this purpose, the curriculum at the engineering colleges both at the degree level and at diploma level should be suitably reoriented so as to keep abreast of the latest advances made in the field. The intake of these courses should also be carefully screened so that the right type of personnel are brought into the industry. It is necessary that these long term measures are taken so that electronic industry as a whole could advance satisfactorily within the 10 year period.

## Conclusion

There is no doubt that electronic industries could make a significant contribution to the rapid development of the state. What is required is specific plan of development, a high-power body for supervision, competent technical consultants for guidance, and concerted action by the state agencies. Given these ingredients, there is no reason why the electronic industry, which will largely be in the small and medium scale sector, cannot grow rapidly in the developing countries providing new employment opportunities to technically qualified personnel and spread prosperity in widely dispersed areas.

> *Small industries play an important role in the economic growth of our country. They provide immense opportunities not only for employment but also for exploitation of indigenous resources.*
>
> —V.V. Giri



# EXPORT POTENTIAL OF INDIA'S SMALL SCALE INDUSTRIES

H. D. SHOURIE

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THE potential of small industries in regard to exports lies in the fact of their significant contribution to the national manufacturing sector, the range of their products and their capacity to produce speciality items to individual buyer's requirements. The high rate of economic activity in many developed countries is also increasingly generating larger demand for labour-intensive products of small scale industries in a developing world.

Small industrial units, comprising 91 per cent of the total registered factories in India, contribute about one-third of the gross output and one-fourth of the net output of all Factories in the country. Their products range from simple consumer goods to sophisticated end-products, intermediates and capital goods. These units account for almost the entire production of several items. Recognising the technical efficiency and capacity of these units to manufacture, as many as 55 industries have been reserved exclusively for development in the small scale sector. Many of these products are either already being exported or possess the potential of selling in overseas markets in substantial quantities.

The exploration of foreign markets by various organisations has revealed export prospects for a number of items manufactured primarily in the small scale sector.

The State Trading Corporation, for instance, recently estimated export potential of about Rs. 60 million in respect of the products like plywood and hardboard, builders' hardware, bolts and nuts, agricultural implements, sewing machines, cycle and cycle components, vacuum flasks, surgical rubber gloves and finger tips, metal utensils, and electrical appliances & accessories. The Development Commissioner, Small Scale Industries (DCSSI), has also prepared a list of about 500 items possessing considerable export potential.

**Export Effort**

Although precise data on the contribution of small scale industries to India's export effort are not available, these are estimated at about Rs. 100 million per annum. The magnitude of their contribution to national export effort should not, however, be judged in terms of the total value of their direct exports, as the latter will necessarily be small because of the complexities of export trade and the meagre resources of the small scale sector. Their contribution to the exports of manufactures and semi-manufactures will, however, be found to be substantial, if their indirect exports effected either through "export-houses" and "merchant exporters" or in the form of components and ancillaries of the products of medium and large industries, and taken into consideration.

In 1969-70, exports of 16 products at Rs. 100 million accounted for 9 per cent of India's total exports of Rs. 1,060 million of engineering goods. Item-wise exports of some of these items have been: bicycles, Rs. 15.9 million; bicycle components, Rs. 30.3 million; electric fans, Rs. 20 million; builders' hardware, Rs. 4.6 million; oil lamps and stoves

*India, which hitherto was the largest importer, now looks forward to export its own products; sophisticated products made by small scale industries are being exported to advanced countries like Japan. As a result of the display of Indian small industries' products at EXPO-70 in Osaka, export enquiries worth over Rs. 580 million have already been received. Picture shows the Japanese manufacturers being briefed by Dr. Nau Nihal Singh, Director Export Promotion in the SSIDO who was one of the two officers deputed for the purpose.*

(Pressure and non-pressure), Rs. 4.8 million; stainless steel utensils, Rs. 3.2 million; steel trunks, Rs. 3.5 million; G.I. buckets, Rs. 1 million; G.I. drums/barrels Rs. 0.3 million; Fountain pen and ball pens, Rs. 2.6 million; steel ghamellas and steel utensils, Rs. 2 million; iron cylinders, Rs. 1.3 million; and sewing machines, Rs. 5.5 million. Needless to mention that small industries contribute substantially to production and, as such, to exports of these consumer durables and end-products.

Although the contribution of small industries to the volume of production has been impressive, their participation in the national export effort has been rather inadequate, for not even one per cent of these units are in the export field. Small Industries in countries like Japan are responsible for about 50 per cent of her total export earnings. The potential of small industries could, therefore, be advantageously exploited for supplementing and strengthening India's export effort. The fuller exploitation of this potential, besides contributing to the foreign exchange earnings of the country, will set in motion a process of modernisation because of the sheer necessity of keeping abreast with the requirements of export markets.

### Export Strategy

The programme for the development of exports has necessarily to start and be carried forward at the level of the enterprise; but in the sphere of small industries, the government has obviously to take considerable initiative in supporting the effort of small enterprises. The first essential measure of this strategy is identification of products with export potential and of enterprises which have or can develop the capacity to manufacture the identified products. The units so identified need to be provided requisite assistance for ensuring maximum production efficiency and effective export marketing of the products.

There is also need for undertaking measures for generating export consciousness, rendering export assistance and technical advice on product development, training in export-marketing techniques, and even assisting them in conducting sales. Some of these measures are already being undertaken by the organisations established for promoting development of and exports from small industries. The measures undertaken by these organisations call for a thorough review of their functioning and the efficacy or otherwise of such measures. In this context, the following suggestions in regard to organisational arrangements and export marketing groups, supply of raw materials, machinery and equipment, etc. merit close and careful consideration.

### Small Scale Industries Development Organisation (SSIDO)

The SSIDO is the central organisation which, through a network of Small Industries Service Institutes (SISIs) and Extension Centres spread all over the country, with complements of technically qualified and specially trained officers, renders service practically on all aspects connected with export-marketing. In the field of exports, this organisation identifies products with export potential and selects units capable of entering into export markets and subsequently it gives intensive assistance to such units to engage themselves in export-marketing. The Indian Institute of Foreign Trade also helps in the identification of products and units possessing potential for exports, through the Export Potential Surveys and other studies.

*Leather Garments have a great demand in overseas markets. Perhaps this is what prompted the Prime Minister Smt. Indira Gandhi to agree to inaugurate the leather garments manufacturing unit set up with the active assistance of the SISI Kanpur. The special features of the garments displayed are being explained to her by the Director of the Institute, Shri S.H. Jadhav.*

SSIDO is undoubtedly the only central organisation with its branches located in almost every State in India, which provides assistance to small industries on almost all aspects of production and export-marketing. Its effort in the direction of exports will now be further strengthened with the appointment of a Director of Export Promotion within the organisation. Small Industries Service Institutes have at present only a Small Industry Promotion Officer to look after all matters concerning exports. In order to focus attention on the need for giving a powerful stimulus to the small industries for participating in exports, it is hoped that a fullfledged Directorate of Export Promotion will be built up under SSIDO as recommended by the Standing Committee on Export Promotion of Small Scale Industries. The proposed Directorate will act as the fountain-head of all developmental work relating to exports. Similarly, each SISI should have an Export Promotion Cell under a senior officer, trained in organising export-oriented production in small-scale industries.

### State Directorate of Industries

At the State level, the Directorate of Industries—a very important governmental agency—looks after the development and exports of small industries. In some states the Directorates of Export Promotion have recently been set up. The Directorate of Industries, through its offices located in the districts and sub-divisions, practically works at the door-steps of small industrial units. For export promotion work, some of the Directorates have separate Export Promotion Cells. These Cells, however, have certain limitations, which are: (i) lack of proper guidance from a state organisation where the Directorates of Export Promotion have not been established, and (ii) shortage of staff for dealing with export promotion work. It will, therefore, be worthwhile to create a cell devoted to export promotion in the Directorate of Industries where the Directorate of Export Promotion is not being established. To enable the State Government to set up expeditiously the proposed cells, financial assistance may need to be provided from the Marketing Development Fund.

### Industrial Estates

Any programme of orienting the production of small units to exports should necessarily start with those units which are working under relatively better conditions and have, therefore, higher production efficiency. Such units are, by and large, located in Industrial Estates. Many of these Estates are situated near the various governmental service and aid agencies. Industrial Estates should, therefore, serve as the focal points of export-oriented programmes in the small-scale sector.

With a view to stimulating freight traffic or entrepot trade or the establishment of export industries, Industrial Estates attached to ports or airports have been established in Taiwan (Kach-Swg), India (Kandla), Ireland (Shannon), Jamaica (Kingston), Malta (Marsa) and Singapore (Jurong). In Korea, an Industrial Estate is planned exclusively for light industries catering to export markets. In Taiwan, an Export Processing Zone is being set up for the development of export industries and trade.

Industrial Estates have, thus, been utilised as an instrument of export production in addition to being the means of industrial development in quite a few countries. Recognising their important role, the Standing Committee, referred to earlier, appointed a Sub-Committee to study the feasibility of utilising Industrial Estates in India as a base for developing exports of the small-scale sector. The Sub-Committee in its Reports, "Export Development in Industrial Estates" has *inter alia* recommended the establishment of "export promotion cells" in the bigger Industrial Estates. These cells should be in the charge of the concerned Estate Managers/Administrative Officers after providing them orientation in export-marketing techniques. These officers will identify export-oriented units for determining the type of assistance to be given for export-production and export-marketing and will also extend the benefits available under export promotion scheme to such units.

**State Small Industries Corporations**

In order to provide a better and direct outlet to small industries for the sale of their products abroad, it may be worthwhile to orient the State Small Industries Corporations, where Export Corporations have not been established, to function as Export Corporation as well. The Corporations, which start undertaking exports should be recognised as Export Houses so that they may be eligible to seek assistance from the Marketing Development Fund. These Corporations would be in a position to make a more purposeful use of the Reports of the Export Potential Surveys undertaken by the Indian Institute of Foreign Trade in States like Andhra Pradesh, Mysore, Orissa, Maharashtra, Tamil Nadu, Bihar and Haryana. These Reports have attempted the identification of products which offer potential for exports and the units manufacturing those products.

**Export Marketing Groups**

The handicaps of small industries in relation to exports can be overcome, to a large extent, by promoting the concept of collective functioning among them. This would enable small enterprises to combine for undertaking activities connected with sales abroad. Collective functioning can take the form of export marketing groups in which a number of small enterprises operate together either as a formalised enterprises or as a loose combination for different predetermined purposes. Combining the functions of various units as one group can result in lower costs of marketing operations, easy procurement of finance and credit, timely execution of bulk export orders etc.

Export marketing groups or export consortia have reportedly been operating successfully in several countries. For example, there is a General Export Association in Sweden, whose main function is to "find buyers abroad for individual Swedish exporters, enlighten them on market conditions and provide, them with opportunities to exhibit their products at international trade fairs". About 500 industrial art firms in Netherlands have joined to form a group, known as Zeta Group. Products are exported in Zeta's name and under its trade mark. In Singapore, small manufacturers have promoted an export consortium with a view to pooling their resources for better selling abroad.

Sporadic efforts have been made in India for the establishment of export-marketing groups or export consortia. Besides the consortia of large-scale manufacturers like the Indian consortium for undertaking transmission line projects and the Indian consortium for power cables, efforts are also being made to organise export-marketing groups/consortia of the small manufacturers. The manufacturers of hardware items like locks and electrical goods in Aligarh (UP) are reported to have decided to form an export consortium. To help increase the exports of solvent extracted groundnut oilcakes, a central agency known as Groundnut Exporters' Development Association has been formed.

**Raw Materials for Export Products**

It is of fundamental importance that export products should be of high quality and available at competitive prices. For manufacturing quality products and for keeping production costs in check, off-the-shelf supply of appropriate raw material at comparable international prices is a must. To this end, it will be desirable to use the instrument of State Small Industries Corporations to a greater extent. These Corporations could be granted bulk import licences and allocated indigenous scarce materials for distribution among the small industries engaged in export-production. In this respect, the establishment of Industrial Raw Materials Assistance Centre (IRMAC) in the STC is a step in the right direction. A "Sub-Committee on Raw Materials" has also been constituted to go into the raw materials difficulties faced by the small scale industries in the manufacture of the products for exports and to suggest ways and means of eliminating these difficulties.

**Machinery and Equipment**

To develop the competitive capacity of small-scale industrial products in export-markets, it is of crucial importance that small industries, whose exports have to compete with those of large industries, be enabled to procure the requisite machinery and balancing equipment for producing quality products at competitive costs. Preference should, therefore be given in the procurement of machinery and equipment on "hire-purchase" by the National Small Industries Corporation, State Small Industries Corporations and the State Bank of India under its Instalment Credit Scheme, to the small-scale units undertaking programmes for export-production.

### Design Development

Though development of new and better designs is an important factor for increasing sales in the sophisticated world markets, governmental services in this respect are yet inadequate. The SSIDO can advantageously come forward to assist the small scale exporters to improve the designs of their products by lending the services of qualified technical experts. Products of new designs should be exhibited in permanent exhibitions and display centres organised in important industrial centres. This would help in generating consciousness among small enterprises about the need for better designs for the export-markets.

### Co-ordinated Programme

The need for stepping up exports is obvious. Both sectors, large as well as small, have to contribute each in their own way, to larger exports from the country. The small scale sector, despite its significant contribution to the national economy, has not so far played its due role in the development of exports. This calls for a comprehensive and coordinated programme to generate additional exports from this sector. It is also essential that small industrialists themselves take a more positive and direct interest in developing exports.

> *Small industries offer many opportunities, besides adding to production, they broaden the industrial base. They enable the process of modernisation as well as entrepreneurship to spread to more regions and layers of society.*
>
> —Indira Gandhi

# SMALL SCALE INDUSTRIES DEVELOPMENT IN INDIA

K. N. SAPRU

*Chairman, NSIC Ltd.*

INDIA is a country of villages with over 75% of its population living in rural areas. Before independence, there was hardly any industry worth the name. In the large scale, the industry was primarily confined to Cotton Textiles in the West, a steel production complex in the South-East, Jute, Cement, Sugar, and Paper production distributed in medium scale units all over the country and in the absence of any sizable machine-manufacturing units, there was a virtual dependence on imports of capital goods. Small Scale Industries, as we understand them today, occupied an insignificant place in the national economy. There were very few small scale enterprises and this sector comprised mostly of unorganised units engaged in the manufacture of arts and crafts, metal-ware and servicing units. The industrial development of the country had to be organised from a scratch after the departure of the British.

The Industrial Policy Resolutions of 1948 and 1956 laid down the broad pattern in which different sectors of economy were required to develop. Certain spheres were reserved for expansion exclusively for the State and areas of operation by the public and private sectors were identified and delineated. This pattern is what came to be known as "mixed economy".

The First Five Year Plan was mainly oriented towards agricultural development. Huge projects were undertaken for providing an infra-structure of irrigation facilities and power needs. It was really in the Second Five Year Plan that gigantic projects were undertaken in the Public Sector with the object of ultimately attaining self-sufficiency in steel, aluminium, heavy electrical equipment, fertilizers, oil, machine tools, surgical instruments, life-saving pharmaceuticals and several other industries involving heavy capital cost and long recognised for ensuring an equitable distribution of National Income and for providing large employment.

The first International Perspective Planning Team which visited the country in 1953-54 after surveying made positive recommendations on the organisational setup necessary for the growth of small industry. These recommendations were accepted by the Government of India and two organisations viz. the National Small Industries Corporation Limited and the Office of the Development Commissioner for Small Scale Industries were set up; the former was to render marketing assistance by organising production in the small scale sector for meeting the requirements of Government Purchase programmes and the latter was to provide technical and management consultancy services through its network of Small Industries Service Institutes and Extension Centres to bring about a continuous growth and improvement in the productivity of small scale enterprises.

With the setting up of these two Organisations, a systematic programme was introduced for the sustained development of modern small scale industries. The programmes envisaged provision for supply of modern equipment to start a new industry, to replace old and obsolete ones, to study in detail the problems of small industrialists such as need for technical and financial

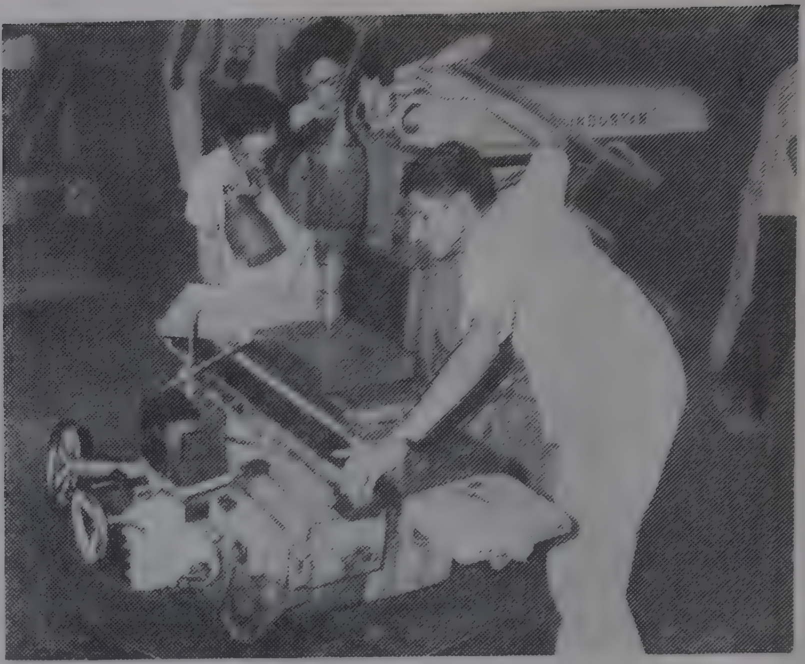
*Development of industries depends on many factors, one of which is the availability of skilled personnel to run the various enterprises. Here, some worker-trainees are attending theory classes in the Extension Centre at Dhanbad which are designed to make skilled operators out of them.*

assistance, suitable working environments, etc. and to give them appropriate assistance and facilities. In pursuance of this objective, the Small Industries Assistance Programme was drawn up to offer facilities of supply of machines on liberal hire purchase terms, to encourage small enterprises to participate in Government Store Purchase by giving them preferential treatment, to provide factory sheds in industrial estates, to offer credit facilities on easy terms, besides raising the technical and managerial competence of small scale industries and motivating entrepreneurs to set up new small enterprises.

A few schemes operated by the National Small Industries Corporation Ltd. need particular mention. Under its hire-purchase scheme, the NSIC supplies plant and equipment against a small earnest money deposit, the balance being recovered in instalments spread over a period of 7-10 years and charging a lower rate of interest than the prevalent bank or market rate. The cumbersome formalities of assessing the credit worthiness of the applicant and of asking him to provide sureties are dispensed with. Machinery and equipment worth more than Rs. 450 million have been supplied so far to over 10,000 small units from the resources of the N.S.I.C. Ltd. In the marketing field, the NSIC was instrumental in securing for small entrepreneurs orders from Central Government Purchasing Agencies for supply of stores and as of date, has secured orders for well over Rs. 1,900 million worth of stores. For this purpose, the Corporation has on its list over 18,000 small scale units whose capacity to execute Government Contracts has been assessed and tested. Another important sphere of activity of the NSIC is the training of artisans and skilled workers at its Prototype Production and Training Centres where they are provided with free hostel accommodation and are paid stipend for the duration of their training. Over 4,000 trainees so far passed out of these training centres after rigorous inplant training in several engineering trades.

As a result of the managerial and technical assistance rendered by the Small Scale Industries Development Organisation, working capital credits provided by the State Bank of India, long and medium term loans advanced by State Govts. and Financial Corporations the small industries in India have taken to modern methods and systems of production and most of them at present are using latest machinery and equipment. The small scale sector is at present manufacturing a wide variety of consumer and producer goods comparable in quality and also competitive with the products of the large scale sector. According to statistical data available, the small scale enterprises were estimated to have contributed Rs. 11,780 million to the National Income of the country as against Rs. 11,540 million by the large scale industry in 1963-64. They also accounted for an estimated employment of 2.70 million workers out of a total industrial employment of 5.33 million in the same year. The total number of small scale enterprises registered with the State Directorates of Industries is reported to be 178,000 at present and it is estimated that there are nearly 150,000 unregistered small scale units in addition.

The current economic conditions are conducive to the development of the small scale sector. The socio-economic policy of the country is to reduce progressively the concentration of economic power in a few hands and to encourage decentralisation of the industrial enterprises so that those living in remote



*The field agencies of the SSIDO, i.e., the SISIs and the Extension Centres not only assist the small entrepreneurs in solving various problems but also undertake job work on minimal charges. Here, the SISI workshop at Jaipur does a contour milling job with the help of magnetic table.*

places and backward regions can also share the benefits of economic developement in the country.

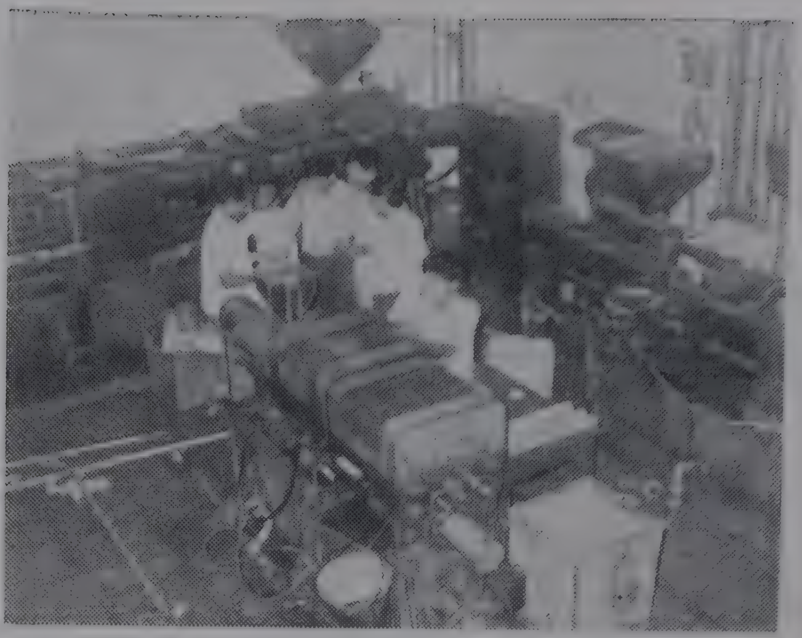
Intensive Development Campaigns are conducted to attract, guide and motivate entrepreneurs in industrially backward areas to set up small enterprises by giving them all facilities and assistance practically at their door-step. Such campaigns are sponsored jointly by the Small Scale Industries Development Organisation, the State Directorates of Industries and the National Small Industries Corporation Ltd. The NSIC has played a prominent part in these intensive campaigns by supplying machinery and equipment of indigenous and imported origin to the small industrialists and to new entrepreneurs. Existing small enterprises have been enabled to modernise, expand and diversify their production as a result of the technical assistance given by the officers of the SSIDO and of the facility of hire-purchase of machinery provided by the NSIC.

The principle of demarcation of spheres of production between the large scale and small scale sectors adopted in the Second Five Year Plan needs to be pursued more vigorously to afford time and opportunity to the small scale sector to gain the necessary strength to develop on its own. Stress should continue to be laid on securing closer integration and co-operation between small scale and large scale units and further development of ancillary units.

Reservation of products for exclusive production in the small scale sector is another step to encourage the development of small enterprises. The items of reservation for small industries in such spheres where a high degree of mechanisation does not confer any decisive advantage, should be enlarged progressively. It will be necessary to identify and earmark specific areas or fields of production and processes exclusively for small scale sector based on the proved competence of small enterprises.

Irrespective of the risks attending on provision of liberal credits to some entrepreneurs whose lack of experience or business acumen might result in the failure of an enterprise, Government's credit institutions should not fight shy of extending financial assistance. The liberalisation of credit does not mean doling away funds for unworthy projects but liberal assistance for projects on the basis of their technical feasibility and economic viability. If the entrepreneur is judged not by this financial standing but by his business acumen and competence then there is no doubt that the small enterprises will have greater chances of success. Economic considerations should also induce the large scale units to farm out their requirements of parts and components to small ones rather than produce these items themselves.

More vigorous efforts are needed to induce small entrepreneurs to enter export markets. Although many items produced in the small scale sector are being exported, their share in the total exports is very limited. The production of an individual unit being rather low, expenditure on publicity and marketing is beyond the means of an individual unit. The promotional efforts on the export front, therefore, require not only streamlining of the systems but a network of agencies to guide the small industries in respect of of quality, modern marketing and production tech-



*The Extension Service of the SSIDO plays a significant part in the development of small scale industries in the country. The service includes on-the-spot assistance for small units. Here, officers of the SISI Ahmedabad are on a visit to a small factory at Udhna.*

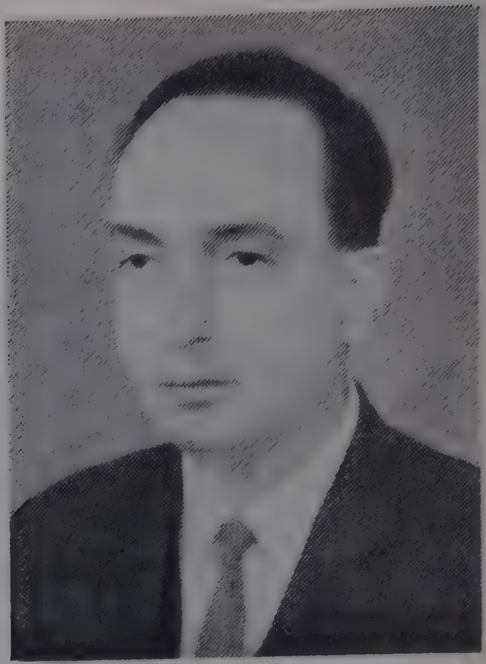
niques. If these efforts are supplemented by coordination by a Central Developmental Organisation like NSIC, the results are bound to be progressively satisfactory. Today, the NSIC finds it difficult to undertake this work in a large measure for want of adequate capital base, as such operations are promotional in character and initially involve considerable expenditure and deficits. In spite of these handicaps the Corporation has recently started organising export of products of some labour intensive industries and have secured orders to the extent of Rs. 4 million in six months.

The small industries programme is expected to bring about dispersal of industries. Quite a number of measures have already been taken for dispersal of industries to areas lagging behind industrially. These include identification of areas, setting up of rural industrial estates, development of agro-industries, conducting district intensive campaigns, provision of technical assistance to Rural Industries Projects and such other schemes. About 150 deficit districts have not yet benefited significantly from the agricultural revolution and these also suffer from low productivity and low income specially found in under-developed areas. The setting up of industrial estates in some of these towns have also not transformed them into nuclei of market towns. Many Industrial Estates are not functioning; where they are, they are appendages to a city; they show hardly any organic relation to the surrounding area and villages. This has led to the growing migration of the rural unemployed from the poorer districts to the already congested cities—a trend likely to create social stresses and conflicts.

The new concept of the development of Growth Centres has been generally accepted. Integrated planning around a Growth Centre would create a regulated market which will stimulate the flow of agricultural and industrial products. It requires continuous efforts on the part of and co-operation between State and Central Governments, Financial Institutions, Banks and the local entrepreneurs and farmers. The role of the Government is to provide an infra-structure of roads, irrigational facilities, power and work sheds around the Growth Centres having potentialities of a regulated market system. Financial Institutions and Banks have to encourage investment in industry by local small entrepreneurs by providing liberal credit facilities. These efforts would create greater opportunities for fuller employment to farmers and unemployed, besides generating industrial wealth.

Changes contemplated in the economic policy of the country have instilled a new hope in the small scale sector. A favourable climate for planning the future development of small industries in the country has already been created. Governmental Institutions are going all out to provide assistance and facilities for setting up industries and it is for the entreprenurs to come forward enthusiastically and prove the optimism of those responsible for planning and implementation. It is well known that per capita income generated by the growth of small industries is more than by other means and, as a living example, I can refer you to the State of Punjab in India compared to other States or to the international status of Japan, which is coming close to being the leading nation by its tremendous growth rate achieved through real encouragement of her small trade and industries.

# THE SPECIFIC ADVANTAGES OF SMALL SCALE INDUSTRIES



BIRENDRA NATH BHATTASALI

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FOR raising the level of productivity, it is necessary to make the most of the resources and specific advantages available in the country. The traditional method of measuring productivity at the national level is to divide the G.N.P. or G.D.P., as might be more relevant, by total civil employment. But in most of the developing countries, the demographic pressures and state of unemployment are such, that measurement of productivity in terms of civil employment alone hardly indicates the state of economic health. In such countries, one is interested to know, more than anything else, as to how the people of a country as a whole are faring in the productivity field,—whether their skills and efforts in using the resources are leading to the economic growth for the nation as a whole, how far the growth of population is affecting the benefits of productivity and a host of similar questions. It is therefore customary in such cases to measure productivity at the national level with the entire population as the input, and the total value of the goods and services produced by them as the output,—in other words in terms of per capita income.

For maximising per capita income and for reducing the severity of demographic pressures, every feasible avenue of gainful employment has to be exploited. And towards this objective, economically viable small units which could mobilise the factors of production and sustain a productive workforce, have basic roles to play,—particularly in the developing countries. Small scale industries need certain services and institutional supports—which could be organised through the corporate bodies of small units, whereby the benefits of these could be shared by them, at a nominal cost, without having to make separate individual arrangements for the same. The principle governing such supports had been enunciated by Dr. W.A. Lewis in his well-known work "The Theory of Economic Growth" (George Allen & Unwin, Ltd., London) as follows:

"The large organisation can conduct research, buy in bulk, sell in bulk, raise funds easily, produce a standardized article, advertise, hire the best specialist advice, and so on. The small organisation can succeed just as well if it is surrounded by agencies—private, cooperative, or statutory, which will take over all the part of work which needs to be done on a large scale, so that the small firm can concentrate on those activities which are adequately done on a small scale".

As regards specific advantages which could be exploited by small scale industries, these could be briefly stated as follows[1]:—

(a) *Higher Industrial Mobility and Fuller Utilisation of Resources*

Small units can be set up in remote areas where large industries cannot move, either due to its very nature of production, or due to limited supply of raw material deposit or limitations of other facilities for large scale production, thus ensuring fuller use of

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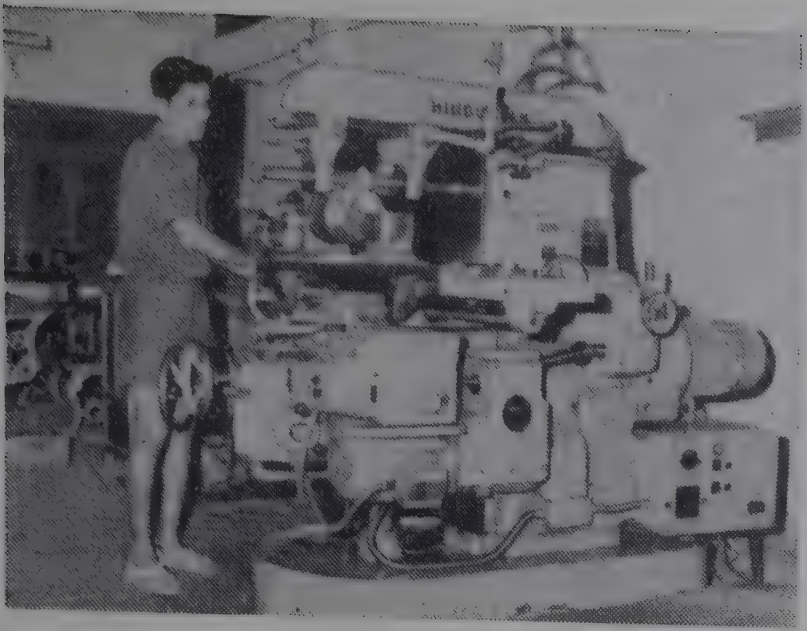
[1] These points have been elaborated in greater detail in the authors' book "Small and Medium Scale Industries in the Developing Countries", Published by A.P.O., Tokyo, 1964.



*In a large industry, machines needed for all operations must be installed while in a small industry you can make do only with the basic machines and the finishing touches, inspection etc. could very well be carried out on the multipurpose common facility machines available to small units in the area at minimal processing charges. Picture shows one such gear cutting operation being done on a milling machine installed in the Extension Centre at Hubli, where this machine has proved to be very popular with the local small units.*

available resources—human, material, capital, market, etc. This is an important factor for most developing countries which were formerly under colonial rule, where administrative and military conveniences rather than the socio-economic processes of an industrial revolution determined the growth of townships or lines of communication in the past. In other words, many of these countries have substantial amount of untapped or improperly tapped and land-locked human and material resources which are suitable for industrial utilisation, particularly in the small and medium scale industries, provided that the requisite technical, managerial, financial and other developmental inputs are available.

### (b) *Production and Employment at Low Cost*

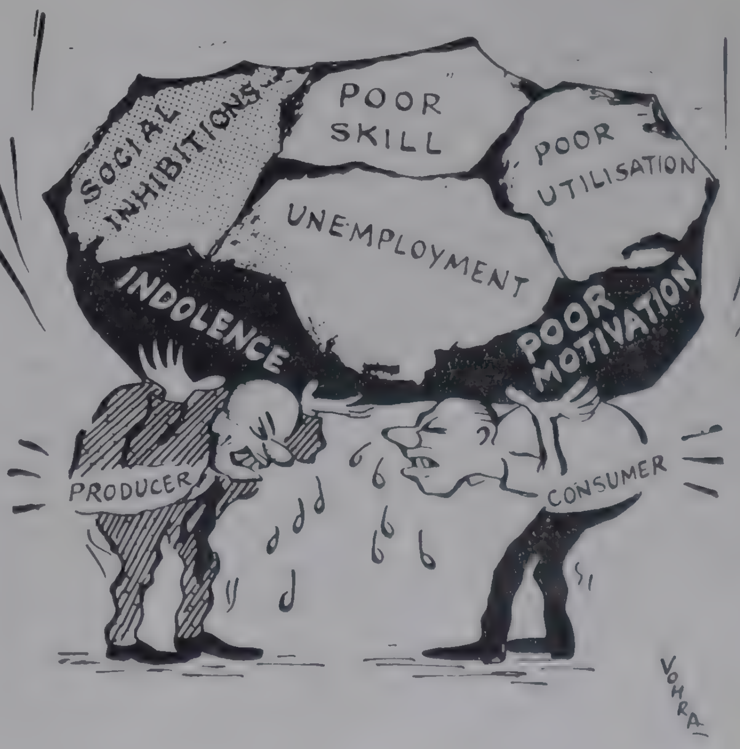
The low cost of setting up small manufacturing units on a viable basis and their ability to provide regular employment opportunities have a number of direct and indirect benefits, particularly for the economies of developing countries. Whereas in India it costs Rs. 60,000 (U.S. $8,000) to create a direct employment in a large scale industry, it costs only Rs. 8,000 (U.S. $1,067) to provide the same in the small scale sector, and Rs. 3,000 (U.S. $400) if a small unit runs fully, using modern managerial and optimisation techniques. The question of employment, however, has to be linked up with the question of productivity, so as to attract labour and sustain them from the dividends of production at a sufficiently attractive level of remuneration in a given situation. The problem of unemployment cannot be solved apart from the problem of productivity and without reaching the break-even point between the two.

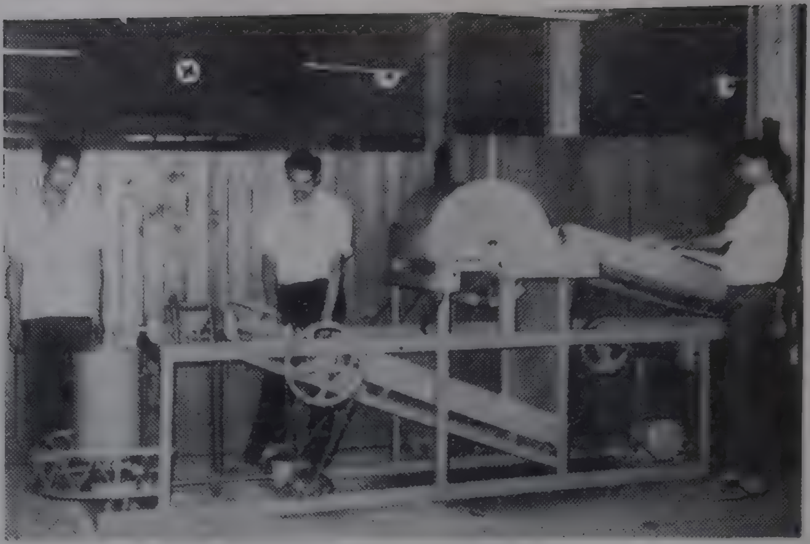
### (c) *Exploitation of Short-run Opportunities, Economics of Scale, Locational Advantages and Ancillary Activities*

The small units provide ideal openings to exploit many short-run opportunities in which it is impracticable to make any large scale investment. These are particularly suitable to function as processing, servicing and constructional industries, and as ancillaries and sub-contractors providing components and services to the large units. This is because they are able to reach the break-even point to derive specific advantages from the size, locality and the market.

### (d) *Decentralised Growth and Deployment of Purchasing Power*

Without proper distribution of purchasing power and dispersal of productive efforts, no self-sustaining industrial activities are possible in the long run. Excessive concentration of wealth in a few hands and insufficient distribution of purchasing power for well-known socio-economic reasons do not stimulate initiative and productive efforts on an extensive scale, but foster a number of anti-social forces instead. This is more so when the national subsistence level is yet





*One advantage of the small scale industries is that a profitable enterprise could be set up anywhere provided the entrepreneur has initiative. Work can be done on simple machines, under the expert guidance of the technical officers of the SSIDO. The picture shows the coir slivering machine in operation at the production Centre at Ettumanur.*

to be attained. Small ventures on a number of production lines cut the operating cost substantially and go a long way in stimulating the national economy. For developing countries, all these are of basic importance for ensuring growth from the bottom and for sustaining economic activities on a wide scale.

### (e) *Extension of Opportunities for Innovative Talents and Techno-Managerial Skills on a Wide Front*

Apart from direct benefit to a nation's economy through the "value added by manufacture" resulting from the production in the small sector, it also provides an extensive training and practising base for innovative and entrepreneurial talents in various directions. Personal identification by such talents, with the hopes, aspirations and fortunes of the enterprise, have profound psychological bearings in promoting the social and economic climate of a nation. The values of these go beyond the immediate pecuniary gains by encouraging a spirit of self-help through successful improvisations and innovations, which benefits the individuals as well as the society at large.

Without reasonable protection from foreign competition and competition from the large sector, small industries cannot always become viable units and grow into medium scale industries. Severe restriction on the import of luxury goods from abroad and gradual reduction of import of other consumer goods go a long way in promoting small industries by providing them with a substantial portion of the national market for the sale of their wares. Similarly the efforts of the units in the large scale sector, through suitable fiscal or regulatory measures, could be diverted to the production of capital goods, raw materials, components, etc., involving complex production processes, bigger capital outlay and higher technologies. India, which used to rely on imports for most of its consumer goods only two decades ago, today manufactures almost the entire range of these indigenously, most of which again are in the small and the medium scale sectors of industry.

Whereas there could be no question about the importance of the small and medium scale industries in raising the level of productivity, and all possible promotional assistance should be given to this sector, still, in order to draw the maximum possible benefit, certain amount of discrimination and selectivity has to be exercised in planning and establishing their feasibilities as viable economic units. There is always the risk of covering up small units, which do not and are not likely to generate surplus and grow into medium ones, with various promotional supports. These may cover up their weakness, which may remain overlooked or ignored, in an uncritical environment for years together. Similarly the nature and the scale of assistance should not make spoilt children of them, who tend to cling to the mother's apron and refuse to grow. Viewed from the productivity angle, an economic proposition deserves promotional supports when it has potentialities for growth and small industries are no exception to this rule. If a small industry succeeds, it will grow, and will cease to be small, soon enough.

### (f) *Intimate Personal Contacts and Better Industrial Relations*

Small industry management is a highly personalized affair, where the manager inevitably gets involved in the affairs of his workmen—his good points, his bad points, his sickness, education, family problems and a host of other matters—in which he can hardly afford to remain aloof or be callous. A captain of industry in a large sector, can afford to remain in his own world, but not so a small man—where he has to share under a common roof, the common fortunes or misfortunes with his workers—who has no mean amount of social responsibility. The old methods of making profit by "hiring and firing" human labour are fast becoming obsolete under the impact of social security measures, and progressive assertion of the rights and the privileges of the working class. Hereditary entrepreneurship is also getting dislodged by "technocrats." With such a pattern of small industry management, what kindlier method there could be, than to energize a developing nation, with industrial activities, spreading productive efficiency, education, social cooperation and on such an extensive front ?

The traditional social values and moral obligation of the family systems inherent in most of the Afro-Asian cultures, could be extended with advantage to their managerial systems, particularly in the small scale sector for mobilising the collective efforts of all employees, with an accent on paternalistic egalitarianism seeking "from each according to his ability—to each according to his necessity." In this direction, Japan can provide very useful lessons to other Asian countries. She had shown that effective industrialisation could take place not only without displacing the cultural moorings, but the former was in fact much more effective when based on the latter. Westernisation in Japanese life has no doubt taken place on the surface as a part of her modern utilitarianism,—but such assimilations could be compared to a stick that could be conveniently used in her cultural patterns, without being a crutch to lean on. In Japan the pattern of industrial management and human relation, apart from fostering very intimate co-operation through joint consultations, had essentially been an extension of traditional Japanese paternalism, and the family system to an industrial organisation, with all its ethical values, responses and responsibilities.

# STANDARDIZATION AND QUALITY CONTROL IN SMALL SCALE INDUSTRIES

S.K. SEN

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THERE has been a substantial growth of small industries in India over the last 15 years. Small industries are contributing 30 per cent of the industrial output of all factories and providing 35 percent of the total employment in the factory sector. Besides a large variety of conventional and sophisticated consumer goods, the small scale sector is manufacturing producer goods like machine tools, industrial machinery, precision instruments and also a wide range of precision components and parts for the large scale sector.

Effective standardization in small industries is a comparatively more difficult proposition than in large scale units. Paucity of raw materials in desired quality, lack of testing facilities and limited resources in production equipment and competent personnel are some of the factors that small industries have to contend with.

### Indian Standards and Small Scale Industries

The Indian Standards Institution (ISI) has from its inception given importance to small-scale sector and its special needs. Of the nearly 6,000 Indian standards published to-date, a large proportion covers small-scale industries. There are standards for sports goods, cutlery, utensils, matches, surgical instruments, bicycles, bicycle parts, automobile components, soaps, ink, sewing machine parts, cosmetics, edible oils, cattle and poultry feeds, agricultural implements, hand tools, bricks and tiles, lime and mortar, drawing and survey instruments, leather and leather products, to mention a few.

Representation has been given to small industries in all relevant technical committees entrusted with the preparation of Indian standards. The Development Commissioner for Small Scale Industries, Small Industries Service Institutes and the States' Quality Marketing Centres are also closely associated with ISI activities. This collaboration provides a forum for putting forth the small entrepreneurs' point of view to the technical committees and in turn appreciating the point of view of large scale manufacturers. Thus, a two-way communication is established which has proved highly beneficial to both.

In many cases, ISI has carried out special investigations to find out what suited the small-scale producers' interest. Standards for sports goods constitute a case in point. A special investigation was carried out to standardize raw materials and constructional details and to evolve suitable tests for assessment of quality. The standards also give guidance for manufacture to satisfy certain essential characteristics, such as concentricity of cricket and hockey balls, mechanical balance of rackets for what is mentioned as the 'feel' of players, proper resilience of handles and the like. This approach is not confined to sports goods or any particular sphere of industry. Investigations have been undertaken whenever a sound basis for standardization was found lacking and had to be established.

*Development is a continuous process. And the SISI Officers are always in the forefront to assist it. Here an officer of the SSIDO inspects finished cast iron body and bottom plates for fans in the assembly shop of a small unit at Ludhiana. The unit produces* 1,400 *to* 1,500 *fans per month.*

## ISI Certification Marks Scheme

The ISI Certification Marks Scheme is a service devised to promote implementation of standards. It is a third-party guarantee to the purchaser that the goods have been inspected, tested and certified by or under the supervision of a competent agency and may be purchased with a reasonable assurance of quality. The primary purpose that certification marks serve is to convey this assurance when the purchaser has no readily available facility, knowledge and skill for inspection and testing or when such testing is clearly uneconomical.

ISI Certification Marks Scheme has made considerable progress since its introduction in 1955. So far, about 2,400 licences have been issued covering a wide range of goods of the annual production value of Rs. 4,300 million. Among the products manufactured in the small-scale sector of industry and covered under the ISI Certification Marks Scheme, mention may be made of electric motors, metal-clad switches, pesticides, paints, tea chest battens and metal fittings, door closers, national flag and sports goods.

In the operation of this Scheme, ISI has always endeavoured to bring in as many small scale units as possible. Certain facilities have been offered under the Scheme to help small scale industries. The Directors of Industries of certain States who operate 'Q' marking schemes have been recognized as Competent Authorities by ISI for certain goods. Licences are granted to small scale manufacturers on the recommendations of these officials and testing facilities available for the operation of the 'Q' marking schemes are also utilized for ISI certification purposes. The small scale sector can also utilize the testing facilities available with the Small Industries Service Institutes, Extension Centres and State Government laboratories wherever they exist.

Application of quality control techniques can help small units a great deal in the improvement of quality, enhancement of productivity and reduction of costs. While the economic advantage would differ from plant to plant depending upon the nature of the operations, 10 to 15 percent saving may not be uncommon and may be even as high as 20 percent or more. For this purpose it is necessary to apply quality control in all phases of production right from the designing of products through manufacture and even further beyond to the analysis of consumer complaints.

To promote quality control in small scale industries, ISI has held training programmes in collaboration with Small Scale Industries Development Organization (SSIDO), Indian Statistical Institute and National Productivity Council. These programmes aim at imparting working knowledge of the basic principles and procedures of quality control to enable the trainees to introduce these ideas in small scale units. The programmes lay particular emphasis on the importance of inspection and testing schemes leading to quality guarantee by a third-party like ISI.

## Conclusion

Small-scale industries have undoubtedly established themselves in the country's economy. They are also playing an important role in the export trade. To hasten the pace of their development and to enable them to compete with large and medium-scale units, it is of utmost importance to create quality consciousness at the enterprise level and to make adequate arrangements for quality control. Small-scale industries should make maximum possible use of the standards formulated by the Indian Standards Institution (ISI) and the services offered under the ISI Certification Marks Scheme. This would help them in weeding out defects in the course of production, thereby improving the quality of their finished goods.

# TECHNOLOGY AND THE SMALL SCALE SECTOR

BALDEV SINGH

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## Small Scale Sector—Its Dimension

IN India, the small scale sector has made phenomenal progress during the last decade. The number of small scale industrial units registered with the State Directorates of Industries has increased from 59,000 in 1963 to 125,000 by the end of 1968 and this rapid rate of growth continues. The contribution by the small scale industrial units in the total industrial output of the country is estimated at 55% towards the end of Fourth Five Year Plan. By its very nature, the low investment and larger employment potential small scale industry has a great attraction in a developing country. With its vast manpower, high rate of unemployment amongst the educated and the technically trained personnel and insufficiency of capital resources, the promotion of small scale industry has a special role in widening the base of entrepreneurship, providing rewarding outlets for individual initiative and giving much-needed employment. Localised market potential and poor purchasing power of the masses combined with lack of efficient communication facilities permit economic operation of the small scale units to satisfy the local needs of a vast sector of he Indian population. It is on this and other overall national considerations that the Government of India have been extending help and assistance to small scale units in a larger measure by reservation of certain industries for the small scale sector, facilities for procurement, allotment and distribution of scarce raw materials, imported machinery, bank credit, easy and low interest payments. Assistance is also provided by way of technical advisory and design engineering services (by the Small Industries Service Institutes), provision of site and common service facilities in the industrial estates, management training and help in marketing of their products. The Office of the Development Commissioner for Small Scale Industries has given a great impetus to the widespread growth and varied manufacturing activities of the small scale sector and has made it vital part of the economy of the country.

## Inhibiting Factors in Growth

The establishment, promotion and expansion of the small scale sector have brought in their wake some inevitable problems inherent in the process of growth. The protective approach to the small scale sector through providing concessions, compensating the handicaps of low level production etc. have given birth to a psychology of complacency and they are content to remain 'small.' It is rarely that we hear that small scale units, through the process of growth and with the able assistance of the State organisations, have grown into 'large' units capable of shedding the need for continuous assistance and support. Here is the first contradiction where the patronage to the small scale units is capable of being detrimental to their growth into self-reliant medium scale or large scale units. The remedy for this might be to so orient the patronage factor as to make it operate more as an incentive to development and gradual self-reliance than as a convenient medium to continue to draw on assistance. The other factor which has a still greater importance is the handicap that the small scale units suffer in regard to inputs of technology because of lack of resources for investment in

*Every effort is made to make the operators in new and existing units to be well-versed in the production techniques. Here is a view of the training in table blowing of glass being conducted by SISI Madras.*

research and development for invention, innovation, improvement and development of their processes and products and extending the range of their activities. Operating, as the small scale units do, under constraints of scarce capital, limited markets and hamstrung with innumerable problems as the scarcity of raw materials and foreign exchange, lack of suitable equipment etc., they cannot be expected to afford the luxury of a research and development establishment. It is well known that there has to be a minimum scale of industrial operations below which it would not be feasible to set up any Research and Development facilities. Under Indian conditions, it requires an investment of Rs. 50,000 per engineer to derive any productive returns by his employment. If we take an investment of 2-3% in Research and Development by an individual enterprise it will mean a turnover of at least Rs. 2.5 to 3.0 million for a single engineer in R & D employment. For team work, at least a group of 2-3 engineers will be required. It would be obvious that unless an industrial unit has a turnover of at least Rs. 10 million, it would not be possible for it to undertake any R & D effort. It is for this reason that the otherwise commendable spirit of entrepreneurship which takes risks and initiatives to go into small scale production, remains restricted in the quality and range of its products and in due course it reaches a levelling-up stage. From then on, it may face an economic and psychological stagnation unless there is a breakthrough in some new direction or the other. The small scale units have to compete not only with indigenous large scale units but also with the variety and quality of goods and products imported from other countries. It is but inevitable that the common man may expect a supply of competitive and quality products from the indigenous small scale sector as well.

### Technological Inputs for the Small Scale Sector

In certain circles, the expression small scale sector has become synonymous with high cost, low quality production coupled with technological backwardness. As mentioned earlier, efforts have been made by the Government through the Small Industries Service Institutes, Small Industries Extension Centres, Indian Standards Institution, Quality Control and Marketing Centres to upgrade the quality, improve managerial competence, introduce modern inventory control and operational methods in small scale sector. All these devices do not provide the essential requisites by way of adequate technological inputs in the functioning of the small scale industries. If the situation is not to result in an unplanned proliferation of economically unhealthy industrial units, serious thinking needs to be devoted to building up a correct perspective for their future. While the incentives and regulations and protective measures hould

*Mobile Workshops for various trades which go to the very door-step of the prospective entrepreneur in the rural areas, carry the message of "modern" small industry and demonstrate the use of simple modern machines.*

operate in a manner as to promote rather than restrict growth of the industrial units, suggestions about the technological inputs must also be considered simultaneously. In this context it might be well to recapitulate that in Japan which is often quoted as an example of labour-intensive industries, the situation has changed drastically during the last three years. The rise in employment, high-wage labour and economies of scale have compelled a complete re-orientation and even reversal of the Japanese policies. Every encouragement is now being provided to the coming together of small scale units into consortia and mergers to make them economically viable. Labour-intensive techniques are being fast replaced by mechanisation and computerisation. Where necessary, Japan is prepared to complement these efforts at modernisation, for an interim period, by off-loading labour-intensive technologies to other developing countries. Japan is also prepared to build up a special relationship, by encouraging the establishment of complementary units on labour-intensive technologies in countries where labour costs are still low to feed its own highly sophisticated industrial units. It is obvious that the small scale industry must be guarded against a situation where its low-paid labour is exploited by another country. Apart from having obvious social, political and economic disadvantages, such a situation will also militate against the national concept of self-reliance.

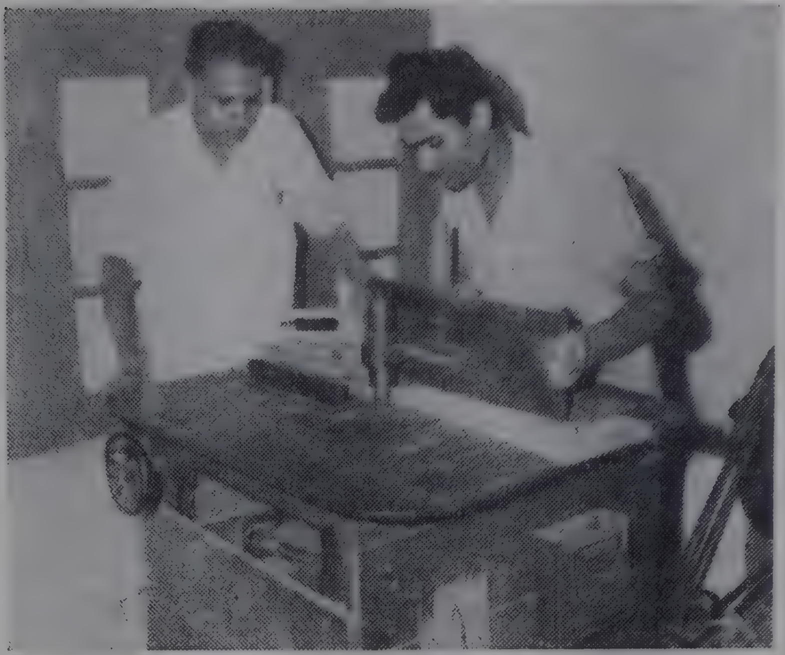
### Technological Possibilities for the Small Scale Sector

The obvious solution to the above foreseeable development is to increase technological competence of the small scale units and provide for technological inputs where necessary by massive support from the Government. The present technological inputs by way of advisory, design and engineering services of the Small Industries Service Institutes should be augmented and strengthened by interlinking them with the generating centres of R & D and indigenous technology, viz. the technological departments of the universities, Indian Institutes of Technology and the industrial research and development laboratories under the Council of Scientific and Industrial Research and other Ministries. As at present the scientific and technical personnel forming the technical infra-structure of Small Industries Service Institutes suffer from the great handicap of being kept away from the sophisticated techniques, instrumentation facilities, advanced library and documentation services concentrated in the CSIR research institutions. Some specific suggestions are offered below:

*Ancillary Units*

The technological handicaps can be avoided by the setting up of ancillary units which have an umblical relationship with the large scale industries and public sector undertakings. The recommendations of the Seminar on the Development of Ancillary Industries held in Bangalore in April 1970 provide the valuable guidelines. While off-loading a certain portion of their production on the small scale satellite units, the responsibility for technological improvements, training of the technical personnel, providing them with refresher courses and facilities should rest with large scale units. The parent-daughter relationship between the large scale and ancillary units should extend to mutual exchanges of scientific and technical personnel, posting of officers from the main unit to the ancillary units for limited

*Quest for a perfect technique is a continuous process. The SSIDO officers visit the units to suggest improvements in the methods of production. Here an officer of SISI, Ludhiana is pointing out some casting defects in the base plates and arms of sewing machines produced by a local firm.*



*Where the small units are not in a position to fabricate suitable special purpose gadgets, the field agencies of the SSIDO come forward to solve their problems. Picture shows a low cost spindle moulder entirely designed and fabricated by the Extension Centre at Meerut in U.P. for shaping rackets to facilitate faster and larger production of rackets.*

periods and training facilities in other countries of the collaborators for the ancillary units personnel. In addition, the R & D facilities of the major unit should include provision for R & D for the products and processes of the small scale units to which, where necessary, the ancillary unit may make a nominal contribution.

*Liaison Centres at Engineering Colleges and Institutes of Technology*

The level of technology in the small scale units can be upgraded if there is increasing consciousness in the small scale units of the need for more refined and sophisticated technology. Liaison units staffed with scientists and engineers should be established in all engineering colleges and institutes of technology to pay regular visits to the small scale units along with personnel of the Small Industries Service Institutes and bring back their problems to be fed to the institutes of technology, universities and national laboratories. These centres should be the forum for the scientists and engineers in the universities, engineering colleges/institutes together with the personnel of the Small Industries Service Institutes for evolving methods for improving the technological level of the small scale industry as also undertaking work on their behalf at nominal charge. The elevated level of technology in the small scale units may also lead to greater absorption of scientists and engineers in these units. This in turn would further add to their technological competence as also increase their receptivity for improved technology.

*Information Clinics*

The State Chambers of Commerce and Industry along with other trade and commercial organisations in cooperation with the State Government should set up information clinics where a small scale entrepreneur may take his problems and ask for a ready solution or the guidance in regard to the laboratory or research institutions where the problems could be sponsored. The small scale entrepreneur should be encouraged to visit these institutes and shed his suspicion/inhibition in consulting scientists and engineers.

*Research Associations of Industry*

Where a small scale industry has been identified as sufficiently well-established, the Govt. should step in to form a Cooperative Research Association by offering a contribution of anything from 30 to 80% in the setting up of a R & D laboratory belonging cooperatively to the industry. In the initial stages the Govt. contribution may be higher but this may gradually taper off to 30% to 50%. The Institute thus set up should carry out services in regard to quality control, testing facilities, certification marks and also undertake individual technological problems of the units on sponsored basis. Active promotion of the Cooperative Research Associations in industries such as hosiery, machine tools, light electricals is a crying need.

Recently the Small Scale Industries Board has identified a few industries for purposes of modernisation. This is proposed to be achieved by installing newer machines in place of the outmoded ones and providing modern facilities for the industries to upgrade their production level. While this approach is commendable, it does not take care of the rapid obsolescence of processes/products and equipment in the fast moving technological world. Simultaneous with the concept of modernisation should be the promotion of Cooperative Research movement in the small scale industrial sector.

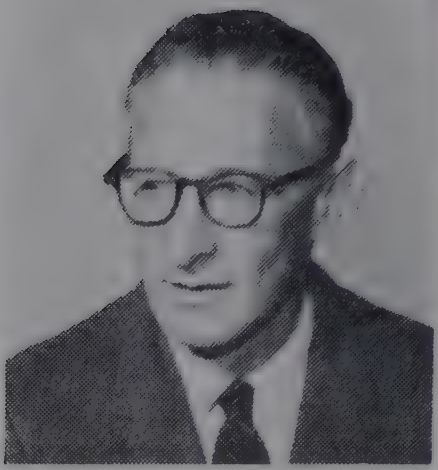
*Mobility of Technical Personnel between Technological Institutes and Industries*

While advocating a closer link-up and mutual help between the Small Industries Service Institutes (SISIs), universities, institutes of technology and scientific and technological laboratories under the CSIR, it is essential to emphasise the need for certain structural changes to be brought about in these organisations in their rules and procedures. Provision must be made for easy and frequent mobility of technical and engineering personnel between the SISIs, the national laboratories, universities, institutes of technology mutually and with the manufacturing units of the industrial firms. The scientists and technologists employed in these organisations should be able to move from one organisation to the other without detriment to the service benefits or career prospects in their parent departments.

Planning for the future is best done when the problems have not become overwhelming and when thinking is not cluttered with compulsions beyond means of management. The small scale industry in this country is still in the phase of horizontal growth at a comparatively low technological level. Time is ripe for considering its vertical growth as also its technological sophistication.

# • HELP AND SELF-HELP

# ••UNIDO'S ACTIVITIES IN THE FIELD OF SMALL SCALE INDUSTRIES



IGOR KRESTOVSKY*

## ●HELP AND SELF-HELP

IT is axiomatic that, both in the developed and the developing countries, small industrial enterprises are in need of special measures of promotion and assistance such as extension services, liberal financing and industrial estates, and that the support they need should be provided at the initiative of the Government, and usually, though not always, by it. The deficiencies in technical and managerial knowledge of those who make up the small scale entrepreneurial class, their weaknesses and handicaps in obtaining finances or in marketing their products are such that, even in the most "laissez-faire" economies and in the most highly industrialized countries, small industrialists are not left entirely to their own devices.

It should be no less evident that a programme of assistance to small scale industries should not result in keeping these in a state of dependence towards the giver of aid, but that it should be aimed at building up strong, efficient enterprises, self-supporting and self-reliant. The implication of such a policy is that help should be concentrated on the initial stages of the establishment and operation of an industrial enterprise or on the early phases of a programme of plant modernization, with a view to inducing, facilitating and accelerating self-help by the entrepreneur and self-sustained growth of his undertaking. From this standpoint, rapid achievement of self-help is a major objective of help.

This view has a number of implications regarding the scope and limits of assistance, its intensity and duration, the selection of beneficiaries, the obligations which these should assume, and the arrangements for eventual take-over by the industrialists of responsibilities for certain types of facilities originally put at their disposal in the form of help. It has also some implications regarding the scope and limits of self-help.

### Limits of Help

It is a basic principle of assistance that maximum support should be given to those who need it most and who, at the same time, are able to make use of it effectively and rapidly, both in the interest of their enterprise and in that of the community, local or national, of which they are a part. It is on this principle that small industry development programmes are or should be based. This sets out one of the limits of such a programme of assistance—the restriction of its benefits to industrial enterprises of a given size range; this will usually be defined by a legislative or administrative act, in the form of a ceiling on investment in fixed capital, employment, or both, with or without a lower limit.

The purpose of a definition of small scale industry is to identify that part of the manufacturing sector which is in need of, and is entitled to, special measures of promotion and assistance. That sub-sector is given a special status in recognition of the particular difficulties with which it is confronted and of the importance of the role it is called upon to play in the national economy. This special status may appear to be privileged one. Up to the limits of the definition, an industrial enterprise is entitled to certain benefits. Beyond the limits—even if it exceeds these by a single monetary unit or a single worker—it has no right to them.

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It may be questioned whether any privilege is granted when help is given to an under-privileged class of enterprises with a view to offsetting their handicaps and enabling them to stand on their own feet. It is legitimate to give such help and it is undoubtedly correct to set a cut-off point at which the need for help may be considered to have disappeared or to have been substantially alleviated.

The ceiling or ceilings of the definition of small industry should, therefore, be set at realistic levels. If they are sufficiently, though not excessively, high, most enterprises will be situated well below these limits and their need and right for help should not give rise to contestation. Continued availability of help within the limits of the definition would be an incentive to further growth, as well as a means of achieving it. Ceilings set at reasonable levels should not deter any dynamic enterprise from crossing them and growing further. Indeed, the ceilings should be set at levels at which the need for help of healthy enterprises should be considerably reduced, if not eliminated.

Thus, while a definition of small scale industry gives the same rights to all enterprises that find themselves within its limits, it assumes that the needs for assistance of the enterprises will decline as they grow and that recourse to most benefits will no longer be indispensable at higher levels of their development. There is usually a correlation between size and strength, and it is legitimate to assume that an industry growing from small scale to medium-size would forego assistance without qualms. At higher levels of enterprise development, the special status granted to small scale industry should normally fade away into the common status.

The assumption of reversal to common status at a specified level of enterprise development may, however, not be verified entirely in all economies. In countries without an established industrial tradition, such as the newly independent countries of Africa where few and sometimes no modern indigenous small industries exist, the need for certain forms of help may be in evidence even in enterprises exceeding the limits of the definition. Inadequate knowledge of techniques, management and marketing may subsist for a long time in indigenous enterprises having grown from small to medium size. Quite evidently, assistance should, to the extent possible, be given to all those who need it as long as it is required. There may be a point, indeed, in African and some other countries, in reserving a special status to indigenous industries in general, irrespective of their size, at least as far as provision of certain types of services is concerned.

Thus, even the larger indigenous enterprises may feel the need for industrial extension services in the form of technical and managerial counselling and training, and should be entitled to receiving such assistance. Government sponsored extension services, however, need not necessarily be provided to them free of charge, as would usually be the case for small scale industries, since the larger enterprises would be able to pay for them.

On the other hand, the use of such facilities as standard factories in industrial estates, hire-purchase of machinery, preferential government purchasing schemes, etc. should in such economies, be reserved to small scale industries as legally defined, since such benefits are aimed at helping enterprises which, because of their small size, suffer irreducible handicaps and drastic financial hardships. At relatively higher levels of enterprise development, such handicaps and hardships should normally have been overcome. Moreover, some of these facilities, e.g. standard factories, are physically "tailored" for occupation by small firms, their number is necessarily limited, their cost is high and restrictions on their use are, therefore, imperative. As regards the larger common service facilities like tool rooms or testing laboratories, they might, within the limits of their capacity, be used by enterprises of all sizes.

While some of the advantages normally reserved to small scale industry would not be indispensable to larger enterprises, they might still be of great value for many of them, in particular to accelerate growth and to facilitate modernization, diversification or, on the contrary, specialization of production. For this reason, special higher limits may be set for certain types of industries considered to be of particular priority, for instance export or sub-contracting industries. A special definition exceeding that applying to small scale industry, in general, may be adopted for these particular industrial groups, to make available to them all or part of the advantages normally reserved to smaller enterprises. They might even be given additional benefits, for instance, more favourable tax concessions.

Thus, the limits of a programme of assistance may also vary according to the priorities of the industrial development of the country.

The ability of a country to muster the necessary resources in personnel and facilities to carry out a programme of assistance to small scale industry is another limit, and a stringent one. In the face of competing needs in all areas—education, health, agriculture, transport, industry and so on—resources in many developing countries are inadequate to meet thoroughly any single need. There is no simple and really satisfactory solution to the problem of allocation of extremely scarce resources to different but equally urgent needs and the determination of priorities in such conditions is one of the most difficult task confronting Governments in the least developed countries. Small scale industries need assistance at all stages and in all aspects of establishment, production and management and the implementation of an integrated programme covering all their needs on a country-wide basis calls upon substantial human and financial means. National experts in technique and management are usually very scarce; industrial estates and service workshops are expensive; foreign technical co-operations experts are often hampered by lack of suitable counterparts and by the inability or unwillingness of Governments to allocate sufficient funds to build estates, to set up extension centres, to provide credit facilities and to adopt other measures of promotion.

This explains the fact that, in too many countries —with some outstanding exceptions—the promotion of small scale industry is carried out through piecemeal measures rather than through integrated programmes and that the scope and, all too often, the quality of assistance is inadequate. The result is stagnation: indigenous small industries are not established, or do not develop or do not modernize, or even do not survive.

There is no reason why this situation should be so widespread. Even the poorest countries should be able with foreign technical co-operation, to finance and man a nucleus industrial extension centre, to allocate funds for credit on liberal conditions to small scale industries, and in most cases, to set up one small industrial estate; and in the course of time, to develop further these three fundamental tools of promotion, and gradually to adopt other measures of support. But this requires, on the part of Governments, a deeper conviction than evidenced thus far that the development of small scale industry is a major policy-objective, and not only an economic, but a political and social one as well, and that to achieve it, a diversion from other needs of even very scarce resources would be justified.

Since reference has been made to foreign technical co-operation, it may be mentioned that inducing self-help is as fundamental a principle in foreign aid as it is in national extension service. No foreign experts should be expected to carry out tasks which national officials should normally undertake, though, as intimated earlier, many experts do so, either because of lack or unsuitability of counterparts, because of government directives or because of their own inclinations. Similarly, national extension officers should not substitute themselves for factory owner-managers, but should impart knowledge through training and demonstration so that the recipients of assistance are enabled to solve their problems themselves. But then, the quality of assistance—whether foreign or national —must be such as to make this possible. The training of extension workers should, therefore, be a fundamental element in a programme of development of small scale industry*.

The scope and limits of such a programme might vary according to the location of small scale industries. In the large cities where "external economies" exist and where industrialization proceeds spontaneously, less may have to be done for each individual enterprise than in the smaller towns where incentives and measures of support should be provided for a long time to ensure the establishment and growth of enterprises facing greater handicaps. Very often, it is not so much the scope or volume of assistance to individual enterprises that will vary with location as its duration. It is likely that, because of the more favourable environment, the stage of self-help will be reached sooner by enterprises in the large towns than in the smaller ones. However, it is already difficult enough to set up an industrial extension centre in the main urban centre, and decentralizing its services to cover other regions is even harder. The provision of occasional help through itinerant experts or teams of experts is, in many countries, the best that can be done. But it is worth doing it; such help should be scheduled on a regular basis and given as long as required.

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* While recent attempts to provide extension services to small scale industry in a region, a sub-region or even in several countries by a single multi-national centre have not been successful there are strong reasons for believing that the training of extensin workers could and should be carried out as a regional or sub-regional effort, or perhaps more importantly, on a linguistic basis, the multi-national training centres catering respectively, to English-speaking, French-speaking and Spanish-speaking trainees.

In some particularly disadvantaged locations, but which, however, offer the minimum conditions for the establishment of industries, sharper differentials may be needed in terms not only of duration of assistance but also of scope. Thus, tax concessions and financial aid may need to be more generous, certain services may have to be provided entirely free of charge, rents for factories in or outside industrial eastates may need to be more heavily subsidized and for longer periods of time, and certain forms of aid not available elsewhere, may need to be resorted to, for instance, subsidies to reduce the cost of power, freight or raw materials.

This raises, however, the question whether, in the conditions of extreme scarcity which characterize so many developing countries, help should not be concentrated where it is likely to produce maximum and fastest results, rather than being spread thinly over broad areas. This consideration has undoubtedly been decisive in the less developed of the developing countries where assistance—when it is being provided—is invariably concentrated in a few growth points, though the needs for a more balanced development are as great there as in the relatively more advanced countries. Thus, the level of development and the scope, amount and quality of resources which may be made available by the Government constitute other limits to a programme of promotion of small scale industry.

It is a fact that in the least developed countries, such as those of Africa, where small industry is still at a rudimentary stage, and where a massive effort would be necessary to achieve a rapid break-through, this has not been done so far, even in the most promising locations, for want of policy, of funds and of expertise, both national and foreign.

Another limit of a programme of assistance is the capacity of the entrepreneur to absorb help. A programme of assistance to small scale industries should not artificially maintain alive weak and inefficient enterprises. If a small entrepreneur, because of lack of ability and drive, is unable to make good use of the assistance he receives, this should undoubtedly be discontinued, though such a decision is difficult to make. It may be expected that, in time, the scope and intensity of assistance would normally decline, but the priod required may vary appreciably from one enterprise to the other. It would be upto the extension officers to judge whether assistance to any given firm is fruitful or is wasted. In extreme cases, a recommendation to give up industry and to turn towards other activities—trade, construction or services—might be the best advice an unqualified industrial entrepreneur might receive.

There are, so far, no scientific techniques for identifying in advance potentially successful entrepreneurs. Perhaps research along the lines of McClelland's achievement motivation techniques—applied until now for enhancing the abilities of established entrepreneurs only—might lead towards a rational identification of such qualifications as willingness to assume risks, ability to take management decisions, to exercise leadership at the same time, to delegate authority, to organize and plan production processes, to train subordinates, etc. which are part of the composite make-up of an effective entrepreneur. An entrepreneur should be able to forego assistance after a certain period of time, but no rigid limits to scope, intensity or duration of help can evidently be set up.

### Limits of Self-Help

There are limits to self-hlep as there are limits to assistance. A small entrepreneur cannot and should not be expected to become entirely self-sufficient in the conduct and development of his undertaking. Because of some inevitable handicaps of smallness, he will be heavily dependent on the good-will of financial institutions for credit, on that of large industries for sub-contracting work and on wholesalers and other tradesmen for procuring his raw materials and marketing his finished goods.

For solving most other problems in running his business, he will be on his own, all the more so since the very smallness of his resources will usually prevent him from hiring technicians, accountants and other specialized personnel and from resorting on a commercial basis to the services of engineering consultants or marketing specialists. He will have to rely on himself for organizing and managing economically his plant, for solving effectively the production, management, marketing, labour, fiscal and other problems which may arise, and for planning and implementing rationally programmes of modernization, expansion or diversification of his enterprise.

Self-help, however, is a concept covering not merely the action of the individual entrepreneur but also that of group of small industrialists—associated in co-operatives, adhoc groups, or professional organizations such as federations of industries or chambers of commerce and industry.

Self-help through the individual effort of the owner-manager is the preponderant form of entrepreneurial initiative and action in market-oriented economies based on private enterprise, while self-help through co-operatives is a distinctive form of small industry organization in socialist economies.

In some market-oriented industrial countries, the organization of *ad hoc* groups for "collective actions" such as training, research, participation in exhibitions, has begun to take place and some role is played by co-operatives, mainly for procurement, marketing and services, but not for production since the organization of production co-operatives appears to conflict with the desire for independence and self-determination of the industrialists. In these countries, most professional organizations are reluctant to go beyond their traditional functions of representation and protection and to engage in promotion and assistance to small scale industries; there are, however, a few exceptions, as in the case of the promotion of sub-contracting.

In most developing countries, the situation is similar or worse; the development of co-operatives is extremely limited, the organization of *ad hoc* groups is not attempted and the undertaking of promotional action by professional organizations is negligible or nil.

One of the reasons for the lack or inadequacy of collective self-help action in the developing countries (and perhaps in some industrial ones) may be that Governments have not provided sufficient encouragement and assistance for the establishment of co-operatives and for the undertaking of promotional activities by professional organization. It would undoubtedly be worth trying to do so, for instance through tax relief, subsidization—e.g. for hiring of extension officers by chambers of commerce and industry—and other incentives. Subsidies might even be used for making available to small scale industries, the services of private consultantcy firms, whose full fees are usually prohibitive for them. Such measures tend to facilitate self-help at both the sectoral and the enterprise levels and to foster inter-servicing among industrial and commercial concerns, as a complement to the promotional and assistance activities of the Government. The cost to the Government of such encouragements would normally be modest.

### "Pump-Priming" and "Follow-up"

What precedes suggests that Government assistance to small scale industry should mainly take the form of "pump-priming" and "follow-up" action. By "pump-priming" is meant an action limited to giving an initial impetus expected to set in motion a self-sustained and cumulative development by the beneficiaries—individual entrepreneurs or groups of industrialists. This being achieved, only "follow-up" action—regularly scheduled or occasional—would be required on the part of the giver of aid.

This will be briefly discussed with reference to specific measures of promotion, namely, industrial estates, extension services and common facilities, demonstration plants, financing and sub-contracting.

### Industrial Estates

Industrial estates are one of the most effective—most costly—instruments of promotion of small scale industries, but no development programme contemplates that, in the long run, the majority of small factories will be set up in industrial estates.

The industrial estate is a typical pump-priming and demonstration device which is mainly intended to overcome, especially in locations where small scale industry is inadequately developed, the considerable initial difficulties of creating modern industrial enterprises. The number of Government-sponsored industrial estates can only be limited and, in the long run, the overwhelming majority of small scale industries would settle outside of them. A Government-sponsored industrial estate programme is also expected to have a demonstration effect inducing other bodies—local governments, consortia of public and private interests and private groups—to follow suit by setting up their own estates.

Pump-priming may take the form of successive steps, gradually extending from maximum support to complete withdrawal by the giver of aid and take-over by the beneficiaries. Thus, in the case of industrial estates, rent of factory buildings may need to be subsidized initially, but subsidies should be granted only for a specified period of time (say, five years) and should diminish from year to year, until the occupant is able to pay the economic rent. Whenever possible, factories should also be offered, from the beginning, for sale, outright or on hire-purchase terms, so as to build up the independence of the entrepreneur and at the same time accelerate recovery of the initial investment by the Government and make it possible for it to plough back funds in other development projects.

At some point of time, the ownership and management of the estates as a whole—and of the common service facilities—should be turned over to the occupants, organized, whenever possible, in co-operative association. Once Government-sponsored estates have been built and occupied on a sufficient scale and the desired demonstration effect has been achieved, encouragement might be given to establishment of cooperative estates, largely financed by their members and managed by them. Such encouragement might take the form of complementary financial assistance, credit guarantee, tax relief, and technical counselling.

At some stage, it might become possible for the Government to slow the rate of building standard factories in advance of demand and eventually to discontinue their construction altogether while still providing some assistance to small entrepreneurs to obtain the necessary physical facilities. The construction of standard factories is, indeed, the most expensive and resource-tying element of an industrial estate project. As entrepreneurship is being successfully stimulated, several successive steps, involving less and less government expense, may be taken in a given location: building factories for identified entrepreneurs only, for lease or sale; developing industrial areas offering only plots with the necessary infra-structure—power, water, roads, sewers, etc.; making available unimproved sites within or outside such areas; in the last two cases, some financial and technical assistance would be given to the entrepreneur to put up his own factory building and, in the last case, also for installing the utilities. Land for industrial use being scarce in most important urban centres, such incentives might prove to be enough to stimulate the establishment of new small scale industries or the branching out of existing ones, in particular of those which have outgrown the facilities put at their disposal in industrial estates.

In some metropolitan centres, the shortage of land for industrial use may be such as to make possible the operation of private commercial, profit-motivated industrial estates or areas. When this is the case, some government assistance to such concerns, e.g. through facilitation of financing by commercial banks or even through temporary tax concessions or accelerated depreciation allowances, might be an effective means of providing physical facilities to small scale industries at a modest cost for the Government.

### Extension Services and Common Facilities

As already stressed, extension services should be provided primarily at the early stages of the establishment and operation of a small industrial enterprise and should be aimed at making it self-supporting as rapidly as possible.

To the extent, which is considerable, to which extension work takes the form of training and demonstration, it should, as a rule, be provided free of charge, education being considered in most countries, as a public service financed by the community at large.

Extension services analogous to those provided by commercial firms, e.g. manufacture of dies, jigs and fixtures by common-facility tool rooms should normally be paid for, though subsidization might sometimes be necessary and complete gratuity, at least during the "infant" stages of a new enterprise, should not be ruled out, especially in countries where industrialization just begins.

As in other cases of subsidization, a system providing for gradual reduction of the subsidy until economic cost is reached at the end of the subsidization period, may be devised. The subsidization period should be equal, *grosso modo* to the length of time needed by an average enterprise to become self-supporting, in other words, to be able to forego special support and to reach the common status.

The concept of the common service facility is based on the fact that, for certain manufacturing operations, it may be uneconomic for an individual small enterprise to own certain pieces of equipment and to develop within its personnel, certain types of skills. The equipment required may not be used at a sufficient percentage of capacity, or may be too expensive or too complex, the skills may be unavailable or too difficult to master.

This is frequently the case of such manufacturing operations as those carried out in tool rooms, heat treatment shops or wood-seasoning plants, or of such industrial services as those provided by testing and quality control laboratories.

There is, for a government promotion agency such as an industrial extension centre, a justification for setting up and operating itself such workshops or laboratory if there is, currently or in the immediate future, a substantial demand for such services, if it is felt that their provision would contribute substantially to improving productivity and product quality and reducing costs in small undertakings and—most important condition—if no private commercial undertaking engaged in such operations or services exists or is to be established in the vicinity.

In countries where the promotion of small scale industry tends to stimulate and assist private enterprises—which is the case in a majority of countries, no government facility for small industry should compete with private initiative; in other words, such help should not replace, prevent, or conflict with self-help.

Whenever possible, a Government-sponsored common facility should, after certain time, be transferred to private ownership and management—either to an individual firm or, preferably, to a co-operative of the users. This would be relatively easy to achieve when common service facilities are set up on an industrial estate, especially when the ownership and management of the estate are transferred to the occupants. In some cases, it should be possible, from the outset, to set up a common facility on a co-operative basis or to have it sponsored by a professional association.

### Demonstration Plants

In a few countries, Governments have set up publicly-owned small plants in industrial estates with a view to "priming the pump" through demonstration, and inducing and accelerating thereby further occupancy of the estate by private entrepreneurs.

This measure may indeed be effective but ownership and management of such plants should evidently be turned over to private entrepreneurs at the earliest possible time.

Equipment may also be acquired by an extension centre for demonstration purposes with a view to stimulating new entrepreneurship. In some countries at very early stages of industrialization, industrial enterprises might have to be set up on an extremely small scale, with one or two machines and a few workers to begin with, a gradual expansion taking place in the course of time, as resources for further investment become available in the enterprise. When there is scope, in such a country, for several industrial enterprises using a given type of equipment, the actual demonstration of the machinery may induce entrepreneurs to come forward and to engage in relevant activities. Facilities should be given for the installation of the entrepreneur in suitable premises, for technical and managerial counselling in the conduct of his business. When entrepreneurship has been sufficiently stimulated, the demonstration machinery should be turned over to one of the new industrialists.

### Financing

The achievement of full self-financing, even by prosperous enterprises, is not and cannot be an objective of an industrial development programme. Any enterprise, large or small, has to turn at some point to financial institutions for a variety of purposes, for instance, in order to carry out without delay a programme of modernization or expansion.

While small scale industries need credit on easy terms, some effort by the borrower should be called for even under the most liberal financing system. It is a sound banking principle that no loan, whether conventional or under hire purchase, should ever cover the totality of the needs of the borrower. Requiring some contribution from the beneficiary is also a sound promotional principle.

The key to the financing of small scale industries is to link technical asistance to financial assistance, both at the stage of application for credit and at that of use of funds. An industrial extension centre should co-operate with financial institutions in making a technical evaluation of the needs for credit of a small entrepreneur and in giving him the necessary help to use properly the proceeds. Supervised credit is consonant with the basic approach of promoting small scale industry by giving an initial impetus and following it up with subsequent assistance.

An example of the pump-priming approach to financing is provided by the systems of temporary equity participation by government and/or commercial financial institutions in the capital of a small industrial enterprise. Under this system, which makes it possible to rasie from the outset an adequate volume of capital and to guarantee loans from commercial banks, the small enterprise commits itself to refunding the outside contribution within a certain period of time. The entrepreneur then becomes the sole owner of his business.

There are also forms of collective self-help in financing, for instance, co-operative credit or mutual indemnity financing. These forms of self-help, as the others, have not been sufficiently practised in most developing countries and there is scope for government assistance to promote them.

### Sub-contracting

As briefly mentioned earlier, in one field, that of sub-contracting, industrial associations in a few developed countries have, in recent years, departed from their traditional hands-off attitude towards promotional action. They have set up a number of sub-contracting exchanges, i.e., clearing houses for bringing together demand from large industries for sub-contracting work and supply from small scale industries. Indeed, industrial associations, especially those which group together industries of all sizes, are particularly well qualified for promoting complementary relationship among their members.

It would be worthwhile exploring, in developing countries where there is scope for sub-contracting, the possibility of enlisting the co-operation of such organizations in the promotion of sub-contracting, either by inducing them to set up exchanges under their own sponsorship or by assisting industrial extension centres in carrying out clearing house functions.

The promotion of subcontracting is another instance of pump-priming action, whereby a relatively small original impetus sets in motion self-sustained and cumulative developments within the industrial community. One by-product is that the extension services given by the Government to small scale industries may be expected to be complemented by technical assistance from the contractor to the subcontractor. This is another example of the approach discussed in this article.

"*. . . If money-making were easy, there would be plenty of well-to-do people but it is not easy. It requires knowledge and skill and energy and ambitions. A man must think more of his work than he does of his work-end if he wants to climb up as a money-maker, First, he must learn how to give a better service. Then he must learn how to make his service known. He must deserve more, and see that he gets it.*"

—Herbert Casson

# • • UNIDO'S ACTIVITIES IN THE FIELD OF SMALL SCALE INDUSTRIES

THE promotion of small scale industry in the developing countries is one of the activities of the United Nations Industrial Development Organization (UNIDO). As in other areas of work of the Organization, the promotion of small-scale industry is carried out mainly through technical co-operation projects and through research and meetings, which are undertaken as a supporting activity for field operations. Both the operational and the supporting activities are aimed principally at facilitating the establishment of a national machinery for the development of small scale industry, including industrial extension centres, industrial estates and financing facilities.

### A. Technical Co-operation

Projects of relatively long duration (two to five years) and involving an important contribution from the United Nations (in the form of experts, fellowships and equipment) and from the Government are undertaken under the Special Fund component of the United Nations Development Programme (UNDP). Shorter operations of more limited scope are carried out under the Technical Assistance component of UNDP, the Regular Programme of UNIDO and the programme of Special Industrial Services (SIS).

As of December 1970, UNIDO serves as Executing Agency for seven large projects assisted by UNDP (Special Fund) in seven countries. These projects are designed to promote small scale industry through the provision of special services and facilities. The seven projects, which are at different stages of planning, establishment or operation, are as follows:

**UNDP (Special Fund) projects relating to industrial extension services and industrial estates (as of December 1970)**

| Porject by country | Executing Agency | Approved by Governing Council | Project Duration (Years) | Total cost in U.S. Dollars | Project costs (US dollar equivalent) Governing Council earmarking | Government contribution |
|---|---|---|---|---|---|---|
| 1. BRAZIL: Industrial Development Centre: Feira de Santana, Bahia | UNIDO | Jan. 1970 | 2½ | 1,561,900 | 663,900 | 898,000 |
| 2. GREECE: Industrial Area and Industrial Estate near Salonika | UNIDO | June 1969 | 3 | 3,105,400 | 722,300 | 2,494,000 |
| 3. IRAN: Establishment of an Industrial Estate, Ahwaz—Development of Small scale Industries. | UNIDO | June 1963 | 7 | 4,216,700 | 1,067,400 | 3,149,300 |
| 4. SENEGAL: National Society of Industrial Studies and promotion (SONEPI) | UNIDO | Jan. 1970 | 3 | 962,200 | 479,200 | 483,000 |
| 5. TURKEY: Small Industries Development Programme. | UNIDO | Jan. 1968 | 5 | 2,202,800 | 962,800 | 1,240,000 |
| 6. UGANDA: Small Industry Development Programme and Establishment of an Industrial Estate, Kampala. | UNIDO | Jan. 1966 | 5 | 1,861,395 | 746,400 | 1,114,995 |
| 7. ZAMBIA: Development of Small scale Industries. | UNIDO | June 1969 | 3 | 902,900 | 608,400 | 294,000 |

All these projects are concerned with the establishment or strengthening of centres for the promotion of small scale industries. These centres identify prospects of small industry development, carry out feasibility and pre-investment studies and market surveys, and provide advisory services to small industrialists, including prospective entrepreneurs, for all problems of establishment, operation and management of their enterprises. An important activity of all centres is training of owners, managers and foremen, as well as of extension workers. Most of them have workshops for training and demonstration purposes, and in some cases for provision of common service facilities to small enterprises. All have an information centre with library and related facilities.

An important objective of five of these projects (in Greece, Iran, Senegal, Turkey and Uganda) is the establishment of industrial estates. In Greece, the project is aimed at setting up and developing near Salonika an industrial estate for small scale industries, an industrial area for industries of all types and sizes and an industrial free zone for export industries. In Iran, the project was initially centred on the establishment of an industrial estate in Ahwaz and, in a second stage, was extended to cover the promotion of small scale industry throughout the country. In Senegal, support is provided to a national centre for the promotion of indigenous industrial enterprises; such promotion includes the development of industrial estates, one of which has already been set up in Thies. In Turkey and Uganda, the projects are concerned with the implementation of small industry development programmes, and the establishment of industrial estates in, respectively, Gaziantep and Kampala. All industrial estate projects include common service facilities such as a mechanical workshop, a toolroom, a testing laboratory and an information centre.

Two other Special Fund projects of broader scope, executed by UNIDO, include functions in the field of small scale industry—the Centre for Industrial Development in Jordan and the Industrial Studies and Development Centre in Saudi Arabia; the latter is establishing industrial estates in Riyadh and Jeddah.

UNIDO is associated with two projects for assistance to small scale industry in Cameroon and Chile, executed by ILO.

Under the other technical co-operation programmes—UNIDO's Regular Programme, UNDP (Technical Assistance) and Special Industrial Services (SIS)—assistance is provided by UNIDO for a broad range of operations in the field of small scale industry. Expert assignments cover technical and managerial counselling, preparation of feasibility and pre-investment studies and of "model schemes", organization or strengthening of industrial extension and other servicing agencies, supervised credit, establishment of common service facilities in or outside industrial estates, export promotion and so on.

The following table shows the trends in technical co-operation activities, including those under UNDP (Special Fund), in the filed of small scale industry, from 1969 to 1971.

**Technical co-operation activities of UNIDO in the field of small-scale industry, including estates and industrial extension services, by sources of funds, 1969 to 1971.**

(in thousands of US dollars)

| | 1969 | 1970 | 1971 |
|---|---|---|---|
| Regular Programme | 159,9 | 160,0 | 140,0 |
| UNDP(TA) | | | |
| Approved projects | 101,0 | 219,1 | 137,3 |
| Forecasts of new projects | — | 859,9 | 922,7 |
| Total | 101,0 | 1,079,0 | 1,060,0 |
| UNDP(SF) | | | |
| Approved Projects | 221,2 | 967,6 | 1,135,7 |
| Under active consideration | — | 180,0 | 640,0 |
| Total | 221,2 | 1,147,6 | 1,775,7 |
| SIS | | | |
| Approved projects | 153,0 | 76,2 | — |

Source: UNIDO, Industrial Development Board, Programme of work for 1971 including Report of Activities for 1969 and Updating of 1970 Programme, ID/B/64, Statistical Appendix, Table 4.

## B. Supporting Activities

UNIDO's activities in support of technical co-operation programmes relate to industrial extension services, industrial estates, techno-economic aspects of small industry development, financing and marketing.

In order to meet the needs of developing countries for trained national personnel to provide extension services for small scale industries, UNIDO has been organizing since 1970 two types of training programmes. Under the first, training and orientation are provided for a duration of two weeks to senior officials in charge of small industry promotion. Two such workshops were organized during 1970 for West African countries in Dakar and for East African countries in Kampala. Another workshop will be organized in 1971 for Central African and North African countries. Under the second, group training is given for a duration of 8 weeks to extension officers; besides lectures, seminars and discussions, the programme includes in-project and in-plant work on extensions, the methods and techniques. Consideration is being given to holding the first group training programme in Puerto Rico in 1971 for Spanish-speaking participants. The second programme would be organised in Italy and Belgium for French-speaking participants in 1972.

In the field of industrial estates, UNIDO has undertaken considerable promotional work in the past, held a number of seminars and meetings and brought out a number of publications. These efforts have resulted in a growing number of technical co-operation projects. Studies on free-zone industrial estates and specialized industrial estates have been completed and will be published soon.

In regard to techno-economic aspects of small industry development, UNIDO has undertaken case studies on products which can be manufactured on a small scale, on quality in manufacturing, on adaptation of technology and on subcontracting. An expert group meeting on the role and promotion of sub-contracting in industrial development was held in 1969. It is proposed to organize regional meetings on this subject in the ECAFE region in 1972 and in the ECLA region in 1973. Technical co-operation projects have been undertaken e.g. for the establishment of sub-contracting exchanges. It is also proposed to organize training in sub-contracting promotion in Western European countries.

The problems of small industry development in the least developed economies are receiving UNIDO's attention; studies have been prepared and an expert group meeting will be held in 1971 on this subject. Work will also be undertaken in 1972 to study the role of small industry in industrial decentralization.

UNIDO has prepared a number of studies on the financing of small industry in developing countries. A regional meeting for the Latin American countries was held in 1970 and a similar meeting for the ECAFE countries will be organized in 1971.

Studies have been undertaken on marketing methods and distribution channels for small industry products in developing countries and an expert group meeting on the subject will be held in 1972.

During 1970, UNIDO commissioned studies on common service facilities for small scale wood-working, leather, rubber and electro-plating industries. Further studies will be commissioned during 1971. These studies are intended to be published as practical manuals for the guidance of UNIDO experts and small industry organizations in developing countries.

# NEW TRENDS IN PROMOTION METHODS OF SMALL SCALE INDUSTRIES

R. DONN[1]

THE problem of small and medium-sized firms is today considered as being one of the utmost importance both in the industrialised countries and in the developing countries although the reasons for this are different. Governments and private organisations in Europe and the United States have, for some time now, been taking great interest in small firms as, on the one hand, they are recognised as being a vital element of social stability in national economies and on the other hand, it had proved necessary, in the general interest of the same national economies to assist these enterprises which are of a modest size to overcome certain handicaps and difficulties which have recently become more acute as a result of the rapid transformation of national and international markets. In the developing countries, it has been found that the small firms were an essential factor for growth as it has become obvious that the large industry alone cannot provide enough employment for the population as a whole and thus ensure the country's economic and social development. In some fields the small firms have special advantages which enable them, on account of their greater specialisation and of their more flexible system of organisation, to maintain an important place on the competitive markets. Their creation and modernisation constitute one of the most easily accessible factors in the progress of the national economy as a whole.

It is more and more recognised in the less developed countries that the two top priority problems are the development of agriculture and the gradual creation of industrial employment. The small rural units answer this need and constitute at the same time a start of industrialisation.

Naturally there is a considerable difference in the needs corresponding to the preoccupations of the developed countries on the one hand, and of the developing countries on the other hand. In the former, the main problem is to modernise existing small units and increase their productivity so as to make them competitive on the ever-changing markets. In the developing countries, it is above all essential to encourage and promote the creation of a number of new units in places where up until now, they were non-existent. It is therefore not surprising that in the developed countries the solution will be sought in improving the training programmes, in modernising management methods and in developing industrial structures. In the developing countries, it is even more essential to develop an entrepreneurial spirit which, together with a thorough knowledge of local conditions, is likely to encourage a dynamic creative effort.

It is nevertheless interesting to note, in the light of compared experience of Europe and the United States on one hand, and Asia, and more particularly India, on the other hand, that there is a great similarity in the essential factors which have to be taken into consideration when programmes for small and medium-sized enterprises are being elaborated.

A policy aimed at promoting small industry must, if it is to be successful, come within the framework of either a general development plan or of national economic objectives which are broadly but clearly defined, as it is obvious that no internal measure which is of interest to one particular small firm, can guarantee its prosperity or even its survival if the necessary macro-economic factors (i.e. the general context of its environment) are not taken into consideration and even modified if necessary. In the developing countries in particular the regional authorities establish their priorities among the sectors likely to be encouraged by the main options of the development plan.

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The views expressed in this article are the personal views of the author and should not be attributed to the O.E.C.D.

The acceleration of technical progress is the essential characteristic of our day and the developing countries have become aware that they should take its long-term effects into account, and, having seen the importance of science as a factor of development, they are attempting to elaborate science policies of their own which are adapted to their resources and needs. In other words, there are feasibility factors which have to be taken into account in the preparation of long-term programmes.

The most recent economic research has shown that statistically quantifiable material factors only account for a variable part—which is often less than half—in the list of factors playing a major role in the process of development. It is the qualitative factors (which have sometimes been misleadingly called "residual factors") which often play a decisive part in the success of actions which are of vital interest to both large and small enterprises.

Here we come across the creative effort mentioned above which should, by means of an appropriate psychological action, enable any potential entrepreneur to try his luck on the market. India has understood this essential point and, under the enlightened and forward-looking guidance of SISIs, has obtained spectacular results which can be taken as an example by many other developing countries.

A promotion action, if it is to be effective, must be based on a structure which is sufficiently decentralised to enable the head of a small firm to be reached personally on the spot and in the field. The head of a small firm is always an individualist, generally far-removed from general broad considerations, and he will not react unless he is reached directly by actions which include some "door to door" activities. But unfortunately there is a limit to what the national and regional promotion and information services can accomplish as their financial means are unavoidably limited even if they are decentralised in a satisfactory manner.

In order to meet these contradictory needs, more attention should be paid to the training of trainers or intermediaries who, by means of independent action, could give a multiplier effect to the work of promotion services and usefully complement them.

If we consider constructively the undertakings of the European countries which in the last few years have paid increasing attention to the small firms, it can be seen that, on account of changing circumstances and needs and also thanks to deliberately concerted thinking, the programmes are undergoing a certain logical process of development. As the sequence of these modifications will no doubt be of interest to the developing countries, we shall try to show the general outline of the process and follow the various stages of it.

## I. Traditional Types of Aid to Small Firms

### (1) *Technical Assistance*

First of all it would be true to say that the only language the head of a small firm is prepared to listen to is technical language associated with his trade. He will listen to technical language because he himself in most cases has received some technical training. He has had very little or no training in organisation and modern management methods and is therefore accustomed to the idea that the key to the prosperity of his firm lies in the solution to specific production problems. When faced with a difficulty, the first thing that comes to his mind is that the equipment or raw materials must be faulty and he will often contact his suppliers for help. Consequently, if we wish to contact a head of a small firm and make him aware of more important, and general issues, the first thing to do is to talk his language—technical language—and give him all the technical information that he requires. This is the first stage in the action. However, we all know that in fact the problem of productivity is not essentially a problem of techniques but rather one of sound organisation and management. Having caught the attention of the head of a small firm by offering him technical information, advantage should now be taken of this fact to make him aware of management methods by means of a diagnosis.

### (2) *Diagnosis*

Awakening the interest of the head of a small firm can naturally be done in several ways but in Europe experience has proved that one of the most effective ways is by having a rapid diagnosis made to detect the weak points of the firm and draw the attention of the head of the firm to this particular aspect. When the head of the firm has been made aware of the weaknesses of his firm and of the recommendations for improving them (practically speaking, a number of the government information services are equipped to make such an analysis), the next stage is to help him to correct his mistakes and prevent him from making new mistakes in the future.

(3) *Consultation and Advisory Services*

Consultation is traditionally the next stage in the proceedings and is usually carried out by consultants from institutions or associations or by advisory services. The advisory services however are faced with a dilemma as they only have very limited means at their disposal: either they undertake a very thorough consultation process—in which case they can only contact a small number of firms, or else they undertake consultation on a large scale and then they cannot deal with any problem in depth. Another possibility is to seek the help of a management consultant, but they are often practically non-existent in the developing countries and even in the more industrialised countries they are not interested in the small firm as they have an established and remunerative clientele among the large firms. It was therefore necessary to find the way to interest these management consultants in the small firm by creating training courses for them to make them aware of techniques which are more particularly adapted to small and medium-sized firms and by passing contracts with them whereby they agreed to aid the small firms for a fee which the latter are able to pay. These details are generally worked out jointly by the advisory service and the management consultant. However, consultation is insufficient in itself. It certainly enables a particular problem to be solved, but unless the head of a small firm has had some training in management methods, other problems will crop up which he will be unable to cope with and the consultant will have to be called back again. Training programmes have to be conducted on a sufficiently extensive scale to correct this shortcoming.

The problem of loans to a small firm to enable it to pay for the services of a management consultant also has to be considered carefully. In Europe a system of management loans was also set up whereby loans were granted exclusively to small firms with a preferential interest rate (4% in most cases). These loans were not granted for pruchasing new plant or equipment or for changing the material structures of the firm but solely for calling in an organisation or management consultant. Today, however, these loans have become less frequent as more complex credit structures have come into being which are favourably disposed towards the small firms.

These traditional types of aid to the small firm proved to have quite a number of drawbacks and weaknesses : insufficient liaison between consultation and training and between financial and technical aid. A small firm, in order to be competitive on the market, must be of a certain minimum size so as to be able to benefit from the various forms of aid available, and its level of efficiency must enable it to reach a certain degree of productivity if it is to survive. It was felt in Europe that not enough was being done to adapt the structure of firms with a view to overcoming their most serious handicap that of their small size, so new ways of solving the problems of the small firms were sought. One of the solutions is known as collective action.

## II. Various Types of Inter-firm Co-operation

The above-mentioned traditional forms of assistance have been widely and successfully implemented in a number of developing countries. The modern forms of inter-firm co-operation, on the other hand, are relatively new in the industrialised countries and have not yet received practical application on any sizable scale in countries where they can be most instrumental in encouraging a dynamic approach to small industries promotion. It may therefore be of interest to examine in broad outline the main features of these new promotional devices.

Collective action differs from the more traditional types of aid in serveral ways. First of all it trys to synthesise training and consultation which were formerly provided by different bodies. It mainly enables the small firms involved to adjust to the requirements of development and the market by correcting the deficiencies caused by their small size. A small firm may not have the necessary facilities to undertake technological research or resolve problems of equipment, engage in market research or organise a commercial network of distribution which would improve its profitability and, above all, its exports. Some firms may, by joining forces and without relinquishing their independence or personality, of which they have every reason to be jealous, overcome this handicap and become highly competitive. Genuine programmes of inter-firm co-operation are needed if the small firm is to feel directly concerned and one of the main advantages of collective action is that the small firm does not receive assistance passively, it is the motivation force behind its own re-organisation. This naturally implies that government and technical services must be organised in such a way that the necessary stimulation may be given to small firms to enable them to group together in satisfactory conditions.

The most simple form of collective action is the *inter-firm group* whereby a number of firms join forces with a view to carrying out the studies and rationalisation needed to improve their management methods and bring about higher profitability and thus consolidate their position on the market. For example:
—Purchasing of raw materials and semi-finished products. This enables the firms to obtain certain economic advantages—lower prices, credit facilities, faster turnover, etc.
—Sales and exports. Here the small firms are able to enforce their markets, promote publicity campaigns, renovate their sales network, set up an information service on sales prospects, etc.
—Manufacturing. Group action is possible at every stage of manufacture—technical research, productivity studies, specialisation agreements, creation of joint production units, establishment of joint design and drawing offices, etc.

In some countries, governments have agreed to grant special fiscal and credit advantages to groups of firms presenting a well co-ordinated programme which is consistent with overall economic objectives.

*The "self-organisation" and "self-managing" groups* are another simple form of collective action and also one of the oldest, historically speaking. These groups are made up of the managers of a certain number of small firms—if possible in the same branch of industry—(usually between 10 and 20 firms) and a management consultant or a specialist provided by a regional promotion service. The idea here is to encourage the heads of the small firms, while providing them with appropriate training, to introduce their own management reforms. The procedure involves : an appraisal of each participating firm, or the discussion of diagnoses already carried out, which enables the head of the firm to discuss matters with the management consultant and also creates an atmosphere of mutual understanding which is essential if all is to go smoothly; a number of sessions of theoretical training; application of the solutions proposed for each of the participating firms and supervision of their implementation. Each member of the group is helped to put into practice in his own firm the techniques which have been studied jointly. When the system has been working for a few months, each head of a small firm visits his opposite number in the other firms in his group to discuss improvements already made and future action to be undertaken. In this way, knowledge acquired is disseminated and practical experience in one firm is passed on to the other members of the group. This represents an important step towards "self-organisation and self-improvement".

*TOP Operations* (Technique, Organisation, Productivity) are another type of collective action, this time between large and small firms (10 large firms and 40 small ones on an average). Here emphasis is put on the importance of local solidarity as a factor for stimulating progress and development. The process followed is similar to that of the "self-organisation groups"—diagnosis of the small firm; theoretical instruction and pooling of experience; practical application in the small firm of the theoretical principles taught. The important difference here is that the specialist or consultant comes from one of the large firms and becomes responsible for the guidance and supervision of the small firms. The advantages for the small firms are obvious but the large firms also find that there are advantages in this method of co-operation: improvement of economic growth in the region as the small firms represent a source of often ill-used productivity reserves; opportunity to project a better image of the large firm within the community.

*Subcontracting clearing-houses* have proved to be a very precise, concrete and effective manner of rationalising the activities of the small firms. The object of the groups is to match up offers and bids for subcontracts as satisfactorily as possible and thus promote optimum efficiency of industrial output and collaboration between large and small firms. Subcontracting can be carried out at the enterprise, regional, national or international level. The clearing-house itself does not require costly installations and an engineer and one assistant can run the office. They have on file a list of all the plant and equipment of the firms participating in the scheme and also of their workloads for the days or weeks to come. This information concerning technical and production possibilities is circulated to all interested firms in the same sector. Thus when a manufacturer needs to subcontract a job he no longer has to look round himself for a suitable firm with the necessary equipment, instead he goes to the clearing-house and knows that his work will go to the most appropriate small firm able to provide the work in the best conditions and within the specified time limit. Often the clearing-houses acquire very specialised knowledge as to suitable equipment for specific tasks and are able to advise heads of firms wishing to modernise or reconvert their plant as to what is available and what equipment is most suitable for a certain type of job. If a head of a small firm knows that there is a steady demand for a certain type of work, he will be more likely to specialise in this and thus use his existing equipment to its fullest advantage.

Clearing-houses of this type have been set up recently in India in Bombay and Madras and there is reason to hope that they will be as successful as their counterparts in OECD Member countries.

This is an example of the practical results which may be obtained by a concrete exchange of information and experience between countries with different levels of development. In order to promote exchanges of this type, OECD has set up a special body, the Development Centre which, acting as a link between its Members and the countries of Asia, Africa and Latin America, undertakes various studies and research projects on essential aspects of economic development problems and on obstacles to growth; it is expected that the knowledge acquired in this field by the Organisation may be helpful for a better formulation and execution of development programmes and general policies of aid. In this context, the centre also organizes seminars, study sessions and expert missions, attempting to make available to developing countries and to adapt to their needs, specific experience obtained by the Organization and industrialized countries in the solution of development problems clearly identified for their strategic value. In the field of small industry, two seminars have been organized in Paris in the last few years, one in September 1967 on "collective actions" and one in October 1969 on "the role of subcontracting." In addition, a certain number of experts have been sent to various parts of the world including India to give on the spot assistance in the solution of problems arising from the implementation of these new methods of promotion which, although of a complex nature, have had most promising results.

India has been able to take full advantage of this communication of experience, thanks to a bold programme of encouragenment to entrepreneurship aimed at the creation of thousands of small units, carried out with a strong administrative infrastructure of Regional Institutes by the Development Commissioner for Small Industries. Let us hope this example will also have beneficiary effects outside of the borders of India and that, with the help of international cooperation, similar results will gradually be achieved by the majority of Asian nations.

# INDUSTRIALISATION IN JAPAN AND THE ROLE PLAYED BY SMALL INDUSTRY

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### Preface

IT is acknowledged on all sides that, after World War II many countries in Asia won their independence and succeeded in opening up new roads for the growth and independence of their national economies. One of the most outstanding examples of this is the Indian. On the other hand, despite the severe damage during the War, some countries achieved economic recovery. The most typical example of this is the Japanese. These successful Indian and Japanese examples are giving encouragement and hope to those developing countries which are still struggling with numerous problems. In particular, when it is realized that the present economic standing of India and Japan is mainly attributable to their success in industrialization, the determination of all developing countries to learn from these experiences becomes much stronger. In other words, it is generally accepted that industrialization is the very thing which developing countries must achieve in order to achieve the stabilization of their national economies and the improvement of their national incomes.

In the meantime, it must be borne in mind that industrialisation does not necessarily mean large scale industries. Setting aside those industrial sectors in which large scale industrialization is technically necessary, it is much more important to develop and create competitiveness in a wide range of existing small scale industries. In this way, it is possible to absorb the surplus labor force in rural areas and also to promote the growth of the entire economy by applying comparative cost principles. In this particular sense, the industrialization of India and Japan should also be remembered as being rare instances of successful industrialization by non-Western countries.

Both India and Japan, of course, have their own long cultural, social, and economic histories. Therefore, the processes of industrialization in these two countries have been different, resulting in dissimilar industrial structures and organizations. In this sense, one may venture to say that the industries in these two countries do not have very much in common. However, it is to be remembered that this heterogeneity in the industrialization of the two nations itself proves that there is more than one path to industrialization, and, in this particular sense, the experiences of these two countries are of significance for all developing nations.

With this in mind and with the hope that such might prove to be of some assistance to readers in Asian countries who are concerned with the development of small industries, I would like to generalize about the process of recent Japanese industrialization and the role played by small industries.

### 1. Japanese Economic Growth and the Role Played by Small Industry

According to a recent announcement by the Japanese Government, the 1969 figures for GNP (Gross National Product) and per capita income showed U.S. $174,200 million and U.S. $1,334 respectively. These figures illustrate the rapid economic growth achieved by Japan during the past 25 years, particularly when it is realized that Japan had lost almost all factories and transportation facilities, and that the majority of the people were on the brink of starvation, when World War II ended in 1945. During these intervening years, rapid economic growth has produced various social strains as well as social contradictions, resulting in endless innovation as conventional systems or structures were replaced by new ones.

The progress made by small industries in Japan shows one aspect of these social and economic changes. It is especially noteworthy that the postwar industrialization in Japan was accompanied by a remarkable decline in the importance of the agricultural sector and a remarkable gain in the importance of the heavy and chemical industries.

As a result, while the agricultural sector's share of GNP dropped as low as 6.8% in 1968, the industrial sectors, particularly the heavy and chemical industries, have attained considerably large production levels. Typical figures for 1969, for example, were 4,495,000 million kw/h of electrical power, 82,164,000 tons of crude steel, 4,681,000 automobiles, and 30,980,000 television sets. It is expected that these expanding levels of industrial production will continue to progress in the future.

The above is a brief generalization of the Japanese economy viewed statistically. I would now like to turn to the roles played by small industries in the development of the Japanese economy, particularly those in the industrial sector.

It has been said, and still remains true, that Japan is a rather special industrial nation where small industries and large industries form quite large social and economic fields. It is true that small industries are also relatively important even in other industrialized nations such as America and in Europe, but not to the extent that is in Japan. It is important that small industries in Japan are much better organized socially than are those in America or Europe, and they have played a decisively important role in the economic growth of Japan comparable to that of the major industries. In fact, it should be emphasized that, in the midst of the remarkable postwar recovery of the Japanese economy, they have not only maintained their relative importance in the industrial sector, but are also tending to become more important in many fields. At present, there are approximately 600,000 industrial establishments in Japan, with approximately 500,000 enterprises and 11 million employees. Of these 600,000 industrial establishments, the larger enterprises employing more than 1,000 people account for only 0.2% while more than 99.0% are enterprises defined by Japanese law as "small enterprises", where the number of employees range from 1 to 299. These percentages of large and small industries have been more or less unchanged for the past ten years. This balance between large and small industries is also clearly shown in terms of shipping volumes. As shown in the following tables (Tables 1 and 2), the importance of small industries has not dropped in terms of either employees or shipping volumes during the process of high growth by the Japanese economy. On the contrary, the relative importance of major industries has shown a gradual decline in terms of shipping volumes and added value. As some experts have pointed out, there has been a clear tendency recently for the smaller enterprises to be improving.

TABLE 1. Percentage Composition of the Number of Employees in Manufacturing Businesses in Japan (%)

| *Scale of enterprise (No. of persons)* | *1-9* | *10-29* | *30-99* | *100-299* | *300-999* | *over 1,000* |
|---|---|---|---|---|---|---|
| 1960 | 15 | 19 | 20 | 15 | 14 | 17 |
| 1961 | 14 | 19 | 20 | 15 | 14 | 18 |
| 1962 | 13 | 19 | 20 | 16 | 15 | 17 |
| 1963 | 17 | 17 | 20 | 15 | 14 | 17 |
| 1964 | 17 | 16 | 20 | 16 | 15 | 17 |
| 1965 | 16 | 17 | 20 | 16 | 14 | 16 |
| 1966 | 17 | 17 | 20 | 16 | 14 | 16 |
| 1967 | 16 | 17 | 20 | 16 | 14 | 17 |

TABLE 2. Percentage Composition of Shipping Volumes in Manufacturing Business in Japan (%)

| *Scale of enterprise (No. of persons)* | *1-9* | *10-29* | *30-99* | *100-299* | *300-999* | *over 1,000* |
|---|---|---|---|---|---|---|
| 1960 | 5 | 11 | 16 | 17 | 21 | 30 |
| 1961 | 5 | 11 | 16 | 16 | 20 | 32 |
| 1962 | 5 | 11 | 16 | 17 | 21 | 30 |
| 1963 | 6 | 11 | 17 | 17 | 21 | 28 |
| 1964 | 6 | 10 | 16 | 17 | 21 | 29 |
| 1965 | 6 | 11 | 16 | 17 | 22 | 28 |
| 1966 | 6 | 11 | 16 | 18 | 21 | 28 |
| 1967 | 6 | 11 | 16 | 17 | 22 | 28 |

However, it is to be noted that the development of these small industries along with major industries was possible only after remarkable changes were made in the industrial structure. On the one hand, minor industries have considerably increased their shares over the last ten years in the amount of value added in light industry sectors such as textiles, clothing and rubber goods where the rate of economic growth was rather slow. On the other hand, the share decrease (of small industries) has been conspicuous in the heavy and chemical industry sectors such as iron and steel transportation machinery, and chemicals, where faster growth rates were apparent. This fact clearly indicates that while many heavy and chemical industries in Japan are developing into mammoth industries, involving huge sums of investment, small industries are at the same time consolidating their bases of existence in many fields, particularly in the light industrial field. In addition to light industries, most machinery industries can be said to be suitable for small industries. At present, there are approximately 70,000 enterprises in Japan engaged in the machinery industry, of which some 70% are "sub-contracting enterprises" that have some relationship with parent enterprises. Although the number of smaller industries to break away from this sub-contracting status has recently increased, machinery industries in Japan can still surely be said to be one of the most typical industries in which large and small industries coexist, complementing each other.

### 2. Direction of Recent Developments of Minor Industries.

Of all the problems which small industries in Japan are facing, the most prominent one is that of how to increase competitiveness. From the viewpoint of competition, small industries in Japan can be classified into the following three general categories:

(1) Sub-contracting firms for larger enterprises;
(2) Firms whose products are competing with those of larger enterprises; and
(3) Firms belonging to special local industries.

In any case, these small industries are competing either with one another or with larger industries. Although there are some minor industries which are not in competition with other industries, one can say that these are rather exceptional and may not have much development potential.

Considering the severe competition in markets, it is not difficult to understand why Japanese enterprises, regardless of whether they are large or small, have continued their large scale equipment investment and are constantly aiming at higher productivity. The labor productivity of value added is lower for Japanese small industries than for large industries, which makes the investment for new equipment much more necessary for smaller industries. In fact, the annual rate of increase for equipment investment by small industries is equal to that of large industries. Actually, the annual amounts invested in fixed assets per employee in Japanese small industries has come up to the American level. Table 3, showing the trends in investment in fixed assets for Japanese industries, clearly indicates that Japanese industries continued investing on quite a large scale in the sixties and that investment activity by smaller industries was also carried out at a tempo equal to that of large industries.

It is necessary to mention here about new competitors, entirely different from the existing competitors, who are beginning to emerge in the smaller industrial sector of Japan. That is, competition with the products of developing nations has already begun, not only in the American market, which is the most favorable market for Japanese smaller industries, but also in the Japanese domestic market. Japanese exports in 1969 totalled U.S. $ 16,000 million. Of this, 40% was earned by products of smaller industries in which the number of employees totalled less than 300, and furthermore, 50% of these smaller industries were dealing in light industrial products.

TABLE 3. ANNUAL INVESTMENT IN FIXED ASSESTS IN THE MANUFACTURING BUSINESSES OF JAPAN.

(unit: U.S. $ 1,000 million)

| *Scale of enterprise (No. of persons)* | *10-29* | *30-99* | *100-299* | *300-999* | *Over 1,000* | *Total* |
|---|---|---|---|---|---|---|
| 1960 | 0.19 | 0.41 | 0.54 | 0.91 | 1.42 | 3.47 |
| 1961 | 0.27 | 0.54 | 0.79 | 1.15 | 2.13 | 4.88 |
| 1962 | 0.31 | 0.60 | 0.86 | 1.26 | 2.04 | 5.07 |
| 1963 | 0.36 | 0.69 | 0.82 | 1.23 | 1.76 | 4.86 |
| 1964 | 0.34 | 0.78 | 0.82 | 1.23 | 1.76 | 4.93 |
| 1965 | 0.37 | 0.71 | 0.88 | 1.45 | 1.93 | 5.34 |
| 1966 | 0.45 | 0.78 | 0.91 | 1.21 | 1.80 | 5.15 |
| 1967 | 0.52 | 1.07 | 1.26 | 1.86 | 2.73 | 7.44 |
| 1968 | — | 1.40 | 1.73 | 2.50 | 3.94 | — |

From Table 3, it is clear that the smaller industries of Japan export a considerable percentage of their products. However, it is undeniable that the recent American moves to restrict Japanese textile imports and the rapid increase in textile or sundry goods imported from the developing nations are putting many Japanese smaller industries into a very difficult position. In addition, if preferential duties are to be applied to the industrial goods of developing nations, it seems almost certain that these smaller Japanese industries will suffer considerably.

Smaller industries in Japan are making various efforts to cope with these changes in market conditions, such as cost-cuts through rationalization of management and profit maximization through product specialisation and selection. In short, the increase in productivity is the most important problem for smaller industries in Japan today. The Government is also giving preferential monetary and taxation treatment to smaller industries in order to help improve them. In the past, the Government policy of encouraging smaller industries has tended to be rather protectionist for socio-political reasons. However, the present policy can be said to aim at lower costs by providing help to smaller industries in order to consolidate them on a better scale.

At present, there are various nation-wide programs under way in order to bring about management stabilization and increased productivity for smaller industries. I would like to introduce two of these which are considered to be the most valuable.

(1) The most important of the so-called "modernization programs" for smaller industries, which are being carried out with some aid from the Government, is the program to enlarge enterprise scale by means of mergers or business tie-ups. As of the end of September 1969, there were 33,453 enterprise cooperative associations into which Japanese smaller enterprises were organized, 40% of which were in industrial sectors. The main purpose of these enterprise cooperative associations is to build joint facilities for smaller entrepreneurs and to obtain financing at lower interest rates from the Central Bank for Commercial and Industrial Associations. However, these functions proved insufficient to modernize the smaller industries. Thus, in order to expedite mergers and joint operations, the "cooperative associations" were especially established in 1967, and they have proved to be quite efficient in promoting mergers and cooperation among smaller industries. By joining these cooperative associations, each smaller industrialist can obtain national loans at reduced interest rates and longer terms. The number of cooperative associations had reached 473 by the end of December 1969.

Apart from this, preferential treatment is being given to 118 industries (as of 1969) based on the "Law to Promote the Modernization of Small and Medium-sized Enterprises" in order to increase the competitiveness of smaller industries. Any smaller enterprise which belongs to the category designated by this Law and is carrying out a modernization program is entitled to obtain low-interest national loans and accelerated depreciation.

(2) Another program which is important to the modernization of smaller industries is the establishment of 'industrial parks'. These industrial parks are well known in India and in many other countries. In Japan, such development was begun in earnest around 1960 with the objects of (1) obtaining higher productivity by means of grouping and joint operations, (2) removing industries from crowded urban centers, and (3) transferring industries to areas where comparatively cheap labor is still available.

Although some of the industrial parks are built by smaller industries without Government aid, many of them are authorized parks built with low-interest national loans. The number of industrial parks established with Government aid as of 1969 stands at 134. Although some enterprises in industrial parks went bankrupt during the recession period, resulting in a temporary decline in new site establishment, this now seems to be progressing at quite a normal rate. The average number of participating enterprises in one industrial park is normally 20 to 30. Table 4 shows the kinds of industries in industrial parks established with subsidies from the Govern-

TABLE 4. DISTRIBUTION BY INDUSTRY IN INDUSTRIAL PARKS IN JAPAN (1969)

| *Industry* | *Machinery* | *Wooden Furniture* | *Lumber* | *Textile* | *Printing* | *Sundry goods* | *Stone-work* | *Food* | *Total* |
|---|---|---|---|---|---|---|---|---|---|
| No. of sites | 68 | 19 | 20 | 12 | 3 | 8 | 1 | 3 | 134 |
| (%) | 51 | 14 | 15 | 9 | 2 | 6 | 1 | 2 | 100 |

ment, indicating that approximately 50% of these sites are occupied by machinery industries.

### 3. Management Problems Facing Smaller Industries

With the progress in trade and capital liberalization with the Japanese economy growing on a large scale, the various enterprises are placed in increasingly severe circumstances. Smaller industries are no exception. I would like to mention briefly the severe conditions confronting smaller industries in Japan and the basic directions which management strategy is taking to cope with these conditions.

The rapid growth of industry in Japan since the sixties was attributable to comparatively high profit rate. It should be stressed that the profit rates of smaller industries was, throughout the sixties not only in line with but sometimes greater than that of larger industries. In my opinion, this is precisely the characteristic of smaller industries in Japan which distinguishes them from those in America. The profit rate (ratio of net profit to total capital) achieved by Japanese smaller industries throughout the sixties was 9% during prosperous periods and exceeded 5% even during recession periods, both of which figures were greater than those of larger industries. Incidentally, the turnover ratio of capital of smaller industries was almost twice that of larger industries. However, it is questionable whether these relatively higher profit rates can be maintained in the seventies, as it seems that various elements which may bring about a reduction in profit rates are likely to emerge.

First of all, the shortage of labor and the consequent increase in wages must be pointed out. With disguised unemployed population in farming areas disappearing, wage rates in recent years have started to rise rapidly, and this is more conspicuous in the smaller industries. Throughout the sixties the annual rate of increase for labor costs in smaller industries reached 10 to 15%, which surpassed that of larger industries, resulting in a narrowing of the wage gap between the two industrial categories. During this period, as the wholesale prices for the products of smaller industries also rose to some degree, it was possible to absorb the increases in wages by these price hikes. However, with wage levels being raised at a much faster tempo, there is a limit to how much this solution can be applied. The greater problem for enterprises is that the availability of potential labor for manual or monotonous work is getting extremely low and the general rate of resignation from such employment is on the increase. Compared with carpentry work, this trend is more evident in the smaller industries where working conditions are inferior.

The next problem is that of capital procurement. Generally speaking, the percentage of interest paid by Japanese enterprises to financial institutions to value added is far greater than those of American or European enterprises. This is due to the fact that the huge equipment investment of Japanese enterprises is met not by the issuance of stocks or bonds but mainly by loans from banking organizations. The Japanese government and industrial circles have often warned that this condition may well impair enterprise stability. In fact, the average percentage of owned capital in the total capital of Japanese enterprises has dropped to as low as 20%. This trend of acquiring almost all capital from banking organizations is seen in both big and smaller enterprises alike. Although it is the same here in Japan as in many foreign countries in that almost all smaller enterprises are family partnerships, it may be quite uniquely Japanese that these small, family partnership companies are dependent on loans from banking organizations.

However, the real point lies in the interest rate. In general, the average rate of interest for Japanese industrial funds is over 8% per annum, which is rather high for a developed nation. It is especially noteworthy that smaller industries are not only charged higher interest rates on their loans but also usually have difficulty in obtaining the loans themselves. In addition, even if they obtain loans from banks, a considerable deposit must be made in the banks, which makes the actual rate of interest much higher. Although there are many financial organizations like co-operative credit institutions which specialise in lending to smaller industries, the interest rates of these organisations are always higher than those of commercial banks.

It must be particularly stressed that this harsh capital market is one of the threats to the management of any smaller industry. Of course, there are some special banks operating on funds financed by the Government, and these provide comparatively low interest loans for medium or smaller enterprises alone. Although the volume of capital supplied to smaller industries by these "Finance Corporations" is quite large, it does not necessarily follow that every small industry can make use of these loans.

In these circumstances, there still remain many problems to be solved if smaller industries are to consolidate their foundations and secure stable management over the long term. I would like to make brief comments on these points before I complete this article.

The management of smaller industries, in general, leaves much to be desired. It can be said that particularly urgent improvement is needed in the fields of personnel and labor management. In the past, it was possible to get by with that "laissez-faire management" attitude which is apt to be seen in small, family partnership companies. However, as the shortage of labor is getting more serious, it is no longer possible to expect to secure adequate labor simply by providing welfare facilities. It goes without saying that investment must be made for manpower savings. What is even more important is management awareness of the need to create modern human relationships. On the other hand, it is true that many smaller industries in Japan are technically behind, which has resulted in a weak basis on which to secure independence as specialised manufacturers. For example, no standardization of work has been established in the smaller industries so far. To some extent, medium-scale enterprises employ figure control in the fields of financing, production and sales, coupled with the joint use of electronic computers, but smaller enterprises have not yet reached this stage. It is imperative that smaller enterprises introduce business machines for rationalization and master the techniques of management.

As I have stated here, the present social and economic situation surrounding smaller industries in Japan is rather severe, and smaller industries themselves still have many managerial problems, which require improvement. However, in making a correct evaluation of the role played by smaller industries in the process of industrialization and economic growth since the fifties there can be little doubt that these industries will continue to play an important role in the stability and development of the Japanese economy in the future also.

*"The concept and even the word "modernization" is to be understood in a very broad sense. It is much more than just the replacement of obsolete machinery and, much more than the improvement of some management techniques, etc.; for it includes the development, the improvement and the expansion of existing industries as well as the preparation for the promotion of new industries with particular campaign which will, all over the Asian member countries, promote and amplify the move towards higher productivity."*

—Charles Rene Droesch

# THE DYNAMIC ROLE OF SMALL SCALE INDUSTRIES

ALBERT ATEN[1]

## Character of Small Scale Industries

SEVERAL attempts have been made to define the term "small scale industry". Such definitions may serve the purpose of classifying such industries by counting the number of equipment, such as handlooms in use, the amount of power required, the number of labour involved, etc. Other terms in use refer to the environment, such as home and village industry, or handicraft, thus asking further attention for particular sociological aspects and conditions. FAO also uses the term *rural* industry in order to indicate that rural people are those who have to benefit from the total economic growth process of which the development and utilization of all available natural resources, through processing, i.e., industrial planning and development, forms an integrated part.

It appears in this respect appropriate to remember in this period of time showing an overwhelming approach toward international aid and development programmes[2] a few words which so often were used by the great leader of India, Mahatma Gandhi, namely: "The Heart of India is in its Villages".

For the purpose of this paper, a rigid definition of the term "small scale industry" does not appear to be useful since main attention will be given to industries that process renewable natural resources, i.e. products derived from agriculture, forestry and fisheries. In general, such activities may be termed products processing industries, which have some characteristics in common to be referred to below.

## Characteristics

It has to be recognized that the planning and development of such products processing industries based on agriculture, forestry and fisheries cannot be dealt with independently of the various aspects of production, or catch, the handling and supply position of the raw materials, but above all the social considerations affecting the people.

Since farmers, fishermen and forest workers are directly concerned with the handling and supply of the raw materials and are people who predominantly live under rural environmental conditions, it is obvious that without their fullest participation the establishment of a products processing industry will become a failure.

In other words, industrial development (being never an and in itself) through the establishment of products processing industries, demands an effective inter-action between primary producers and the industrial enterprise or processing plant. Such an intimate relationship actually constitutes a requisite for successful processing operations in order to benefit first of all the rural people, i.e. the primary producers through whose care raw materials become available.

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[2] Reports such as by Lester B. Pearson, Sir Robert Jackson and Professor J. Tinbergen. See also Cahiers du CENECA: Colloque International, Paris, 1969. Role at dynamique des industries Agricoles at alimentaires.

In contrast, the utilization of some other natural resources, such as minerals and oils, does not depend on the care of the primary producer, neither is the quality of those raw materials influenced by adverse weather conditions, but has to be accepted as presented by nature, or made by man (steel, synthetic chemicals, such as fertilizers, pesticides, plastics, etc.).

Another common characteristic when planning products processing activities is that almost all raw materials derived from agricultural, forestry and fisheries occupations are either perishable, or bulky, and often both. Therefore, all *fresh* agricultural food crops, in order to reach the ultimate consumer, after harvesting (and fish after catch) pass through certain stages of handling and transportation, including some cleaning and wasting, grading, and possibly some storing and packaging. Since in many rural areas, no appropriate facilities for processing (including storage and packaging) exist substantial losses and waste accumulate.

### Development Planning of Rural Processing Industries

Participants in this Conference, in one way or another, will become future promoters for the development planning of products processing industries as dealt with in this paper. Such industries have to be considered one of the key growth points in the economics of developing countries and offer, in many instances, a basis for eventual self-sustaining development. They are sometimes the only conceivable fore-runners to a wider development of other industries, and in particular to the potential contribution of the diversification of economies and to the expansion of foreign exchange earnings (and saving imports) leading to greater prosperity.

### Transformation of the Agricultural Rural Society

As stated before, the establishment of small scale products processing industries will have to be rooted firmly in rural society life. A traditional farmer in such a rural environment, like any farmer in the industrialized countries, responds to certain economic incentives. However, once such incentives are created, they will not automatically ensure the needed transformation which ultimately calls for an entirely new framework of institutional arrangements. It is obvious that the farmer has to be made "ready" to grow crops and rear animals suitable for agricultural and food processing plants. At the same time, those who deal with the operation of the processing plants to be established in rural area development projects have to be prepared to ensure that the required "feed-back" system operates effectively. Such a system requires a strong link between primary producer and processing plant, but also an integration of the plant into the marketing and distribution systems, as without such an integrated approach projects of this nature will not become economically viable. This calls for many changes in attitudes, local customs and habits, and cooperatives, credit and other institutions can play an important role here.

For instance, a multi-purpose cooperative may be an ideal solution and cover the activities necessary to modernize agriculture (and thus rural life), to participate in the operation of the processing plant, marketing and distribution of the processed product. Collective purchasing of high-yielding seeds, of fertilizers, insecticides and pesticides, of production tools and auxiliary farm equipment and machinery may be one of the several aims that could greatly facilitate the growing together of the entire integration of such a project development planning.

In this connection, it should also be recognized that many rural communities already have a nucleus of skilled labour force, often even "small" specialists, such as carpenters, blacksmiths, wheelwrights, and a great variety of "traders" whose skill can be upgraded due to the incentives created by a processing unit so that repair and maintenance, supply services and other facilities accelerate a catalytic chain development of a much wider nature.

### The So-called "Green Revolution" and Rural Employment

Before dealing with some more technical aspects with respect to the dynamic role small scale industries have to play especially in rural development programmes, it appears to be appropriate to touch upon the subjects listed above.

The technological breakthrough in cereal production, the value of the new high yielding varieties of cereals—wheat, rice, maize and, to a lesser extent, millet and sorghum—is no longer in question. So far, this "green revolution" is occurring only in a few (though very important) countries of Asia and, to a lesser extent, in a few countries in the Near East. For South and South-East Asia, for example provisional estimates of additional production in 1968-69 are of the order of 9 and 20 per cent respectively for rice and wheat equivalents to around 22 million tons of food grain. (In India alone, the additional gross value of wheat production over three years, mainly contributed by high yielding varieties, may be of the order of (USA) $ 1,850 million at current prices).

The introduction of the new seeds requires a reorientation in attitudes at the agricultural rural society level and consequently government policies in order to derive the fullest possible benefits. Skillfully handled, the "green revolution" can become in the seventies the vehicle for eliminating much of the world's malnutrition and hunger and for providing millions of jobs in the countryside. The new seeds, responsive as they are to heavy application of fertilizers, demand a more intensive use of water, new approaches to irrigation and massive investment in other inputs such as rural electrification, flood control, the checking of pests and diseases and the creation of storage, processing and marketing facilities, offering better scope for multiple and diversified cropping in areas of assured water supply.

Increased cereal production must pave the way for such a diversification and increase the production of protein-rich crops, forage crops, improved livestock, expansion of the dairy industry and meat processing, the production of pig and poultry meat, all of which contribute to dietary improvement.

In addition to the more rapid development of products processing industries, regardless of size, such a modernization of agriculture caused by the "green revolution" furthermore calls for the expansion of storage, marketing and distribution facilities and the so-called agro-service industries.

To assist agricultural mechanization, fertilizers, pesticides, and production equipment and machinery, in many instances, are at present imported. This situation, however, calls for a change and it is encouraging that many governments now are studying ways and means for local manufacturing of inputs, in close cooperation with UNIDO and FAO.

The employment creating opportunities of such a rapid change obviously are another serious problem facing governments during and after the Second Development Decade. It is estimated that employment opportunities in the not yet industrialized countries during DD2 will need to increase in the agricultural sector by about 15 per cent, which is equal to about 50 million jobs over and above the 1970 level. If past trends prevail, non-agricultural employment will need to increase during this period by 40 per cent through the addition of 100 million jobs.

To conclude, we only have touched upon the planning of rural employment, but are keeping in mind that it not only involves matters or problems of technology, but goes far beyond it as a sum-total of a variety of measures aimed at upgrading socio-economic conditions in order to make rural life more decent. There is no doubt that the "green revolution" will stimulate a further development of small scale industries in countries like India and others where such industries have been incorporated in rural communities since ages.

**Some Technical Matters**

We have up to now touched upon some of the non-technical problems that are envisaged once preparing specific plans for rural industry processing development. The question may now be raised whether rural communities in general can use modern plants, especially with respect to techniques and technologies involved, and also with respect to the necessary investments.

FAO, since its establishment 25 years ago, has been issuing a series of development papers[3] which are analysing types of equipment and machinery and techniques and technologies that can be applied at various levels of production. The equipment manufacturing industry having been geared in the past mainly towards large scale processing machinery, requiring besides large investment costs highly skilled technicians, "top" management, etc., is nowadays making available a wide variety of equipment and machinery in various degrees of sophistication and extremely suitable for use in small to medium-size processing plants. Investment cost-depending on the raw material to be processed, range from some 30,000 to a few hundred thousand dollars.

FAO, furthermore, in cooperation with UNDP and governments, is carrying out a number of field operational projects which aim at making available facilities for training and demonstration in the area of products processing.

Such operational projects are labelled under a variety of names, centres or institutes, or pilot plants for products processing carrying out a number of applied research programmes which are all designed to develop and improve the processing and utilization of locally produced raw material. Such projects, therefore, are building up the necessary infrastructure and pave the way for governments which desire to change existing socio-economic conditions by modernizing agricultural production, processing, marketing and distribution. Such projects obviously could have a rapid impact on the integrated development of rural areas. Some more details on the purpose of such "pilot" operations are given below.

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[3] *Selected FAO Publications*

(These papers are prepared primarily for leaders responsible for guiding the development of products processing projects. Methods and processes, tools, equipment and machinery are described in these papers in broad outline, with the object of showing how technological improvements can be made step by step).

Freedom from Hunger Campaign Basic Studies—No. 17.
FAO Agricultural Studies—No. 23, 38, 59, 60, 65, 72.
FAO Agricultural Development Papers No. 27, 49, 54, 58, 63, 68, 70, 72, 75 and 89.
FAO Marketing Guides No. 1 to 5.
FAO Fisheries Studies No. 2 and other Monographs, Agricultural Services Bulletins, Informal Working Bulletins etc.

**Pilot Processing Operations**

The pilot processing operations referred to above and suggested for introduction on a large scale as well as their subsequent enlargement or multiplication for the benefit of the rural communities, differ from large scale operations in size and therefore in investment costs, both with respect to manpower supply and management arrangments. Although not intended to operate as profit making enterprises aiming, first of all, at carrying out a programme of applied research through training and demonstration, such pilot units, however, at a later stage can trigger the development of viable economic units since the same techniques and technologies are applicable.

For the purpose of this paper, some of their aims can be listed as follows:

to introduce and demonstrate modern processing techniques and technologies utilizing locally available raw materials;
to establish the required contact between primary producer and industrialist;
to gain experience in the production and handling of indigenous raw material (link with farmers), for instance through co-operatives and rural credit systems, processing, storage, packaging, distribution and marketing of the end product (s);
in-plant training of a variety of technical, managerial and marketing personnel including administrators for the development of co-operatives and credit systems;
to determine the cost and economics of scale and profitability of a process technique or method of processing for larger operations;
to prepare an investment climate with particular reference to local farmers' co-operatives and credit systems.

Once experience has been gained, both in handling and management as well as in the successful technical operations, multiplication or enlargement of such types of operational projects is relatively easy. As already stated, there is here a tremendous scope for the development of multi-purpose co-operatives.

To summarize, small to medium size pilot operations, as indicated above are an investment of prime importance, being actually an investment in human skill. Once carefully planned, such pilot operations reduce the risk of failures.

It is clear that planners can benefit from experience obtained elsewhere. A particular problem facing nowadays many highly industrialized countries termed "pollution of the environment" should not be overlooked right from the beginning.

**Some Other Conditions to be Observed**

There are many more points that need to be given attention during the planning stage of project preparation for rural community industrial development and some of the more technical points will now be discussed in short.

With respect to the farmer, it must be taken into account that in many instances production patterns need to be changed. He may in general have sufficient experience with respect to the production of specific crops, but he must become aware that the processing unit can only accept raw materials of relatively standardized quality. Thus, he will require training and guidance on operations that usually are carried out in the field, such as cleaning, trimming, grading, sorting, cutting, etc. This guidance, when appropriate, should also include advice on fertilizers and pesticides application, times of harvesting and delivery, etc.

This "change" in attitude by the farmer is necessary because over the last 25 years raw product requirements have been established for a large number of commodities in order to meet specifications for the industrial (technological) process and the trade as well as to satisfy, promote and protect consumer demand (Codex Alimentarius).

Although not every crop gives rise to the same amount of specific requirements, reference may be made to such good crop as peas, beans, tomatoes, and others, for which specific requirements have been formulated for each type of process, i.e. canning, freezing, drying, or dehydration. Thus "standards" have been established for such factors as shape, size, texture, colour, flavour, odour, acidity, viscosity, maturity, specific gravity, soluble solids, total solids, vitamin content, etc.

Another example of a more sophisticated nature calling for adaptation to meet specific requirements as demanded by food processing industry and consumer is in the field of livestock and fisheries industry which has led to entirely new methods of rearing livestock, fish and poultry, the rapid increase in battery breeding of poultry being a specific example.

With respect to marketing, it will also be necessary to ensure that there is a profitable market for the product(s) and this again is very closely related to the technology to be applied, i.e., to which degree processing will have to be carried out. Market research, especially for food industry development, is extremely important for food industries since many raw processed food products have to get the interest of the buyers, both at home and abroad.

Having this paper prepared for a Conference to be held in New Delhi, it is appropriate to make reference to a well established example of market research in a non-food area, including new product design, which has made India and other countries in the Far East well known in the world for their silk, wool and other home-spun end-produce derived from the small scale industry sector.

### Degree of Processing

We can only touch here on this complicated problem for which it is very difficult to give general guidelines. For instance, canning of a product will be more costly than drying and requires cans or bottles often to be imported; therefore, this process cannot be promoted until one is sure that there is a market for it. On the other hand, the more sophisticated processing techniques add a still greater value to the raw material. Thus, if conditions are appropriate, it may be decided, for instance, with respect to fibres not to stop with processes such as ginning (cotton), scouring (wool), etc., but to continue through the yarn stage and then (when appropriate) move into the textile sector. On the other hand, to take another example, it is pretty safe to come to the conclusion that in most developing countries the prevailing export trade in raw dried hides and skins or in smoked and baled rubber sheets should be abandoned and be replaced by one degree further in processing, i.e., semiprocessed products.

With respect to hides and skins, it means therefore that they should be subjected to a tanning process and preferably be exported at least as a semi-leathery product. For lack of competent technologists and of special markets, it may, however, not be feasible to embark in the initial stage on manufacture of fine leathers and leather products.

In the same way, it is safe to undertake block rubber processing at present, but to start manufacturing rubber goods only at a stage when technologists and market specialists are available.

### "War" on Waste in Relation to the "Food Chain Complex"

A particular problem requires some further attention. This is the recognition that products processing plants and related facilities can greatly reduce losses and avoid unnecessary waste, thus saving food for an ever increasing population. Closely linked with it is the problem of how to convert by-products and waste into suitable end-products. As stated before, these problems can only be solved through the implementation of fully integrated scheme of production, storage, processing, marketing and distribution. In this chain, unfortunately, storage and processing facilities are mostly lacking in the not yet industrialized countries, and since most crops are perishable, all along the line between the primary producer and the ultimate consumer, prior to and also during the period of storing, marketing and distribution, losses and waste accumulate. While it is often not possible to assess exactly the volume and value of the physical losses, they are, nevertheless, extremely substantial and result not only in a reduction of available food supplies, but also in increased cost to the consumer.

With respect to remedial measures, although some simple and not too costly measures, such as for instance better methods of cleaning, drying, handling, and storage of specific food crops, sheltering of public market places, etc. will result in some reduction of losses, with a further extension of supply lines (transport facilities being insufficiently developed) in conjunction with a greater influx of people into urban areas and towns, a point has already been reached in many countries at which the urban population and town people can no longer be fed adequately with *fresh* produce.

In addition to improving transport facilities and related infrastructure, it means that developing countries must greatly accelerate the establishment of product processing industries and related facilities for storing, distributing and marketing. Thus, such countries face a development problem similar to that which confronted the industrialized countries many years ago. Such a situation, by necessity, leads to a far greater use of conserved and processed foods and the consequent development of new food products made possible through new technological processes, including deep freezing.

As it is recognized that many Governments are not yet in a position to undertake simultaneously a number of other steps, such as the improvement of road systems, adequate development of power supply, etc., it is obvious that in order to ensure sufficient and adequate food supply for their rising population, products processing should be given the highest priority in order to reduce losses and waste.

An integrated developement planning, in order to feed the population, requires (with emphasis on perishable food products) along with measures such as improved transportation (particularly refrigerated transport) the establishment of cold storage, marketing and distribution facilities. The total "package" of steps to be taken in all these fields, and the necessity that for maximum effect they should be implemented simultaneously, clearly points to the ultimate development of a vertically integrated system which would have elements of, and in several aspects be comparable with, an "adjusted" or "adapted" supermarket chain—a system which is becoming increasingly popular in the industrialized countries.

It is obvious that such a development will require "adjustment and adaptation" to suit the needs of developing countries, as is the case with the European and USA supermarkets which differ in presentation of assortments, packages, system, etc.

The development of such an integrated chain is a gigantic task requiring a high level of investment, both in the actual processing industries and in the institutional and Organizational structure serving agriculture, including improved storage and the organization of distribution and market systems. A special feature to be referred to is the activity commonly termed market promotion development, as people increasingly will have to become accustomed to processed and new food products, and have to learn the principle of "selective buying".

From an economic point of view, the potential returns in respect of this investment must, however, be considered as very substantial and, as has been shown already in some developing countries, can occasionally be achieved rapidly. It is also important to note that such a development, in addition to reducing losses, permits a far better use of waste and by-products, thus leading to the establishment of, for instance, animal feed, and complementary industries.

Of far greater importance, however, is the fact that such a chain increasingly makes available highly nutritive, protective and balanced food and a wide range of new food products, and in the long run at lower costs. In this respect, such a chain has tremendous value when considering the need for a further development of protein-rich food products, an area which is also being given top priority in FAO s programmes and projects (Filling the Protein Gap).

**Concluding Remarks**

The conclusion reached is that the establishment of rural processing industries should be given a much higher priority. Their development will provide employment, reduce waste and make better use of by-products. Such processing industries will preserve cereals and protein products, increase earning capacity and foreign exchange earnings and save imports, and in particular are a potential contribution to the diversification of economies thus leading to greater prosperity. It is obvious that such a development will only be successful in cooperation with the rural communities, the people concerned who desire changes and accept a mentality of motivation to be felt as an improvement of prevailing socio-economic conditions.

The activities referred to in this paper have been the concern of FAO since its inception. Time, however, does not permit to deal at greater length with the field action projects and programmes. Over the years, experience has been accumulated in such fields as rice milling and cereal processing, dates and other fruit and vegetable processing, olive oil and other food oil processing, dairy and meat industry, cassava and copra processing, fish processing, a wide range of forest industries, including pulp and paper development, hides, skins and leather tanning, vegetable and animal fibres, tea, coffee, cocoa, etc.

Over the past few years, FAO in cooperation with governments and UNDP, the latter supplying the greater part of finances, has increasingly concentrated on field action programmes and projects.

Thus, during the operational period 1966-67, out of about $ 80 million, more than $ 55 million were devoted to action projects, that is implementation of field operations. This figure includes projects aimed at the development of processing industries both in the food and non-food sectors, including the development of forest industries. The sector of industrial development activities in FAO as a whole involved an expenditure of about $ 10-12 million of the FAO operated programme for the period 1966-67.

FAO cooperates not only with Governments through the procedures referred to above, but is also operating projects under Funds-in-Trust arrangements.

FAO also cooperates with others in the United Nations System of Organizations and is intensifying these efforts, particularly with UNIDO, UNCTAD and the UN Regional Economic Commissions.

# EVOLUTION OF SMALL & MEDIUM ENTERPRISES IN THE MODERN WORLD SPECIALLY IN AFRO-ASIAN COUNTRIES*

ROBERT HOLTZ
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*International Federation of Small and Medium*
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### Importance of Small & Medium Enterprises Sector in the national economies, universality of problems and advantages which relate to them

ON a study of the economic structures of the different countries of the contemporary world, two striking facts are found to be in play. In the first place is the importance which the small and medium enterprises represent by way of percentage of the gross national production and employment in regard to which it is stated that it reaches from 50 to 80% of the global economy. Another remarkable aspect is that the very idea of their importance is in constant progression. It is thus that the economic development, the reality whereof has been discovered after the second world war, passes necessarily through the development of small and medium enterprises. The development of large scale enterprises does not by itself constitute the desired panacea for economic ills. In several sectors, it represents often the source of certain economic marginalism.

Another notable fact is the unity and the identity of the characteristics and the problems relating to the small and medium enterprises. The proprietor of a foundry in Toulouse Region in France is a close cousin of the foundry proprietor in the Madras Region in India. At best, there can exist between them a technological gap more or less appreciable in the matter of techniques of production. But the spirit which inspires one or the other, is essentially the same spirit of enterprise. That is to say, a special kind of risk and responsibility has to be borne by the entrepreneurs which make the small and medium enterprise a veritable ferment for economic and social evolution. Spurred by the desire for running a profitable enterprise whose gravest consequence can, at the extreme, be bankruptcy, the small and medium entrepreneur is constrained to progress. However, whatever be his will to succeed, he goes through a number of difficulties, depending upon the degree of evolution of his enterprise or that of the development of the country or the professional branch in which he conducts his activities.

It is, therefore, necessary to plan and to implement effective measures of specific assistance.

### Exceptional capacity for adaptation of small and medium enterprises to the needs of the markets

Another characteristic of the modern world relates to the fact that according to the degree of their development, the economies pass from one type of economy called the economy of production to another namely the economy of market.

Further, it has to be noted that whatever the stage of development of the country in question, the role of small and medium enterprise remains, as has been seen, preponderant.

It is said that in the matter of adaptation of production to the demand in the market, it is small enterprise which can, at best, satisfy it. To be convinced, one has only to refer to the efforts by which certain socialist countries are presently trying to create at all costs a new infrastructure of small scale industries capable of manufacturing consumer goods corresponding to the requirements of the consumers. As an example, the new Five Year Plan of Soviet Russia has a provision for creating a net-work of some 6,000 small and medium enterprises which apparently should best meet the requirements of the consumers.

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*This is a translation of the Article in French by the Author.

### Emergence of new forms of exchanges in the field of external trade between industrialised countries and developing countries in whose case the small and medium enterprise can play a first grade role

The Third aspect which characterises the world economy is the gradual decline in the significance of what has been called "international division of labour". The industrialised countries find themselves increasingly constrained to enlist and increase in diverse new forms the co-operation of those countries which are trying to develop their industries.

One also witnesses the emergence and the usage of new types of operation of international exchange. The new techniques of investigation enable the the localisation of the possible local manufacture of constituent parts of an end-product. At best one can even prepare the list of the parts which can be manufactured in the countries in the process of industrialisation and which can subsequently be re-exported to the industrialised countries for being assembled into a final product by the industrial group which conceived the idea. In these operations of international sub-contracting, the small and medium enterprises by their capacity of adaptation, can play a significant role.

### Deeper penetration of information techniques—increasing utilisation of these techniques by small and medium enterprises

Another predominant factor is related to the deeper penetration of information in the economies. The developed countries will take some more years before one can see the generalised utilisation of information on small and medium enterprises but there is no doubt that their use will be infinitely faster than it has been in the industrialised countries since these techniques have been established there.

### Extension of the zones of economic communities and the preponderant role which small and medium enterprises play therein

Another important factor of the world economic configuration is the creation of the community zones. In a general manner, the agreements which give rise to them have the main object of compelling the countries to lower their customs barriers and other contingent factors, while more specialised agreements between a certain number of countries eliminate them completely. This is one of the characteristics of the contemporary world for establishing certain zones of integral freedom for movement of goods, capital and persons.

Experience shows that small and medium enterprises prosper under this arrangement and that a special attention is rightly being given to them by the community authorities on account of the benefit which they yield.

### The role relating to public involvement in the economic development—inclusion of small and medium enterprises in the global political context today

Another characteristic of the world in which we live is connected with the dominant role of the State and its intervention in the economy.

In regard to the small and medium enterprises the State restricts itself to creating the elements of environments which enable them to develop in the most harmonious manner. When the shortcomings appear in certain sector, it attempts to reduce the disparity. The modern techniques have, for this purpose, selected the indicators of the circumstances which would call for intervention of the State in the form of control of prices, control of exchanges, reduction in import of raw-materials, etc. But the intervention of the State can take a still more accentuated form as is the case with the socialist economies.

In fact, a country which starts a phase of industrialisation can draw benefit from the existence of the means of control and intervention relevant to a framework of global policies. Whatever be the range of interference, the presence of small and medium enterprises is to be indispensable for economic progress.

### Interest in global concept relating to small and medium enterprises and synthesis of policies and the means of promotion in this direction

Lastly, we observe the birth of a concept of collectivity in regard to the policy for development of small and medium enterprises.

In the first place is the syndical action which exerts itself to ensure an equilbrium between the public authority and the professional representatives.

In the second place, the new techniques called "Collective Actions" which are spreading gradually and which are based on the idea that the development of small and medium enterprises depends not only on the so-called internal factors of the enterprise but also on the place which it hopes to achieve in its professional and regional environment (external factors), can make a positive contribution.

Therefore, the technique called "Auto Organisation or Self Organisation" have been put into use in the sector of sub-contracting; the organisations called exchanges of sub-contracting encourage the establishment of more rational links among the enterprises of one professional and another and also among Regions. Finally, the formula for grouping of common services leads to a more harmonised development of the enterprises which adhere to it. While the autonomy and independence of the enterprises are recognised, the efficacy of their services is found to be maximised by a most rational common action.

The Afro-Asian countries do not escape this evolution. According to the degree of their development, small and medium enterprises constitute the fundamental element of their development. For testimony, one has to look at the exceptional effort undertaken in India since 1947 for creating a full scale small and medium industry. In 20 years, about 120,000 industries have been established which represents 35% of the gross industrial output of the country.

The diagnostics have been established on the degree of development of local small and medium enterprises as also on the instruments of collective action which can be taken for ensuring their progress. Two exchanges of sub-contracting have already been created in India at Bombay and at Madras and a programme of setting up organisations of the same nature in other cities is also under consideration. In the same way, in Turkey two exchanges of sub-contracting have come up. Finally, in Tunisia a rational programme of organisation of sub-contracting exchanges has also been accepted.

Most recent studies in the countries which are grappling with the problem of developing small and medium enterprises in the process of industrialisation show *inter alia* the close relationship that exists between rural development and industrial development.

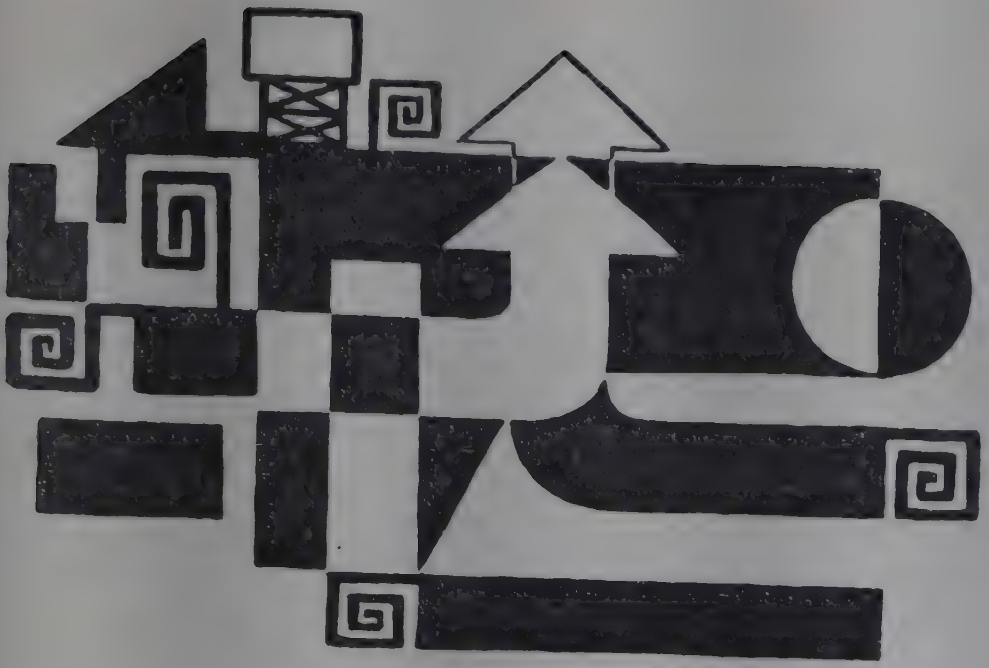
That is the reason why the experts in small and medium enterprise economy work more often in liaison with the experts in rural development.

Thus numerous new techniques grow in the field of development of small and medium enterprises. Undoubtedly, they have to be perfected. Persistent efforts should certainly result in establishing their efficacy within a decade and give their full benefit to the Afro-Asian economies.

# INDUSTRIAL EXTENSION SERVICE

*Our country is big but you will find that it has developed a lot during the last few years. I am confident that the contribution of small scale industries in this development is significant. I hope this progress will increase further in the times to come.*

—Jawaharlal Nehru



# BASIC APPROACH TO SMALL SCALE INDUSTRIES IN INDIA

## Introduction

SMALL scale industries occupy a significant place in Indian economy. The programme of development of small industries has been accorded a high priority in the successive Five Year Plans of the country. Socio-economic considerations have influenced the planners to emphasise the need for the systematic development of small industries. Economic Development of the country depended on a high rate of growth and better distribution of economic gains through larger employment opportunities in a stipulated span of time. The development of decentralised small scale sector could facilitate the achievement of these objectives in a shorter span of time and at lesser capital cost. Therefore, development of a decentralised small scale sector of industry has been accorded an important place in our national plans since small scale industries could meet a substantial part of the large demand for consumer goods and simple producer's goods and facilitate the mobilization of untapped resources of capital and skill. Systematic development of this sector would not only check regional imbalances in economic develement but also ensure a better integration of the rural and urban economies. Encouragement and promotion of small enterprises affords investment opportunities and helps in the rise of a widespread entrepreneurial class which is essential for rapid economic progress.

## India's Policy towards Small Industries

Small scale industries in India, as they are understood at present, were practically non-existent prior to the attainment of political independence. During the II World War quite a few small enterprises sprang up to take advantage of the demand for a variety of goods whose imports were severely affected and also to meet the requirements of certain simple but essential Defence Stores.

The development of small scale industries was emphasised in the Industrial Policy Resolution of the Government of India, 1948. In view of the diversity and peculiarity of problems relating to the various groups of industries in the small scale sector, separate organzations were recommended to be set up at the Centre for the development of each such group of industries. Accordingly, five All-India Boards were constituted during the period 1952-53 for the development of Handloom, Handicrafts, Coir, Silk and Khadi & Village Industries.

Thus upto the end of the First Five Year Plan period, modern small scale industries had not yet emerged as a distinct entity. Small Scale Industries sector consisted of small units manufacturing mostly items such as leather shoes and various leather goods, packing cases, brushes of all types, and tin containers, steel trunks, locks, etc. and many of these items were also being supplied to the Defence Department during the II World War. These industries formed the nucleus of modern small industires in India and were subsequently assisted to take up new lines of production.

First International Planning Team which visited the country in 1953-54 through courtesy of the Ford Foundation recommended the development of the modern small industries i. e. small enterprises using modern methods of production and management.

*The performance of Small Industries Service Institutes in their extension work is continuously evaluated. Every year, the SISI adjudged best, gets a shield. In the picture, Shri Dinesh Singh, Minister for I D & I T, Government of India awards the shield to SISI, Madras whose Director Shri C. Jagannathachari receives it.*

On the basis of the recommendation of the Team, a separate organisation was set up to launch a systematic and coordinated development of modern small industries in the country. Thus small Industries Service Institutes and National Small Industries Corporation came into existence with an All-India Small Scale Industries Board at the centre. In order to implement the programmes and policies of the Government of India for the development of small scale industries, a central organization known as the Organization of the Development Commissioner, Small Scale Industries, was established. This organization formulates policy for small enterprises, furnishes and supervises the implementation of the development programmes, and provides technical guidance and assistance to entrepreneurs and small industrialists in all matters relating to production and management of small enterprises. The Industrial Policy Resolution of 1956, spelt out clearly for the first time the place of small industries in the country's economic development programme in the following words :

"In order that the industrialization may benefit the economy of the country as a whole, it is important that disparities in levels of development between different regions should be progressively reduced. The lack of industries in different parts of the country is very often determined by factors such as the availability of the necessary raw materials and other natural resources. A concentration of industries in certain areas has also been due to the ready availability of power, water supply and transport facilities which have been developed there. It is one of the aims of national planning to ensure that these facilities are steadily made available to areas which are at present lagging behind industrially or where there is greater need for providing opportunities for employment, provided the location is otherwise suitable. Only by securing a balanced and coordinated development of the industrial and the agricultural economy in each region, can the entire country attain higher standards of living."

"The Government of India would stress the role of cottage and village and small scale industries in the development of the national economy. In relation to some of the problems that need urgent solutions, they offer some distinct advantages. They provide immediate large scale employment, they offer a method of ensuring a more equitable distribution of the national income and they facilitate an effective mobilisation of resources of capital and skill which might otherwise remain unutilised. Some of the problems that unplanned urbanization tends to create

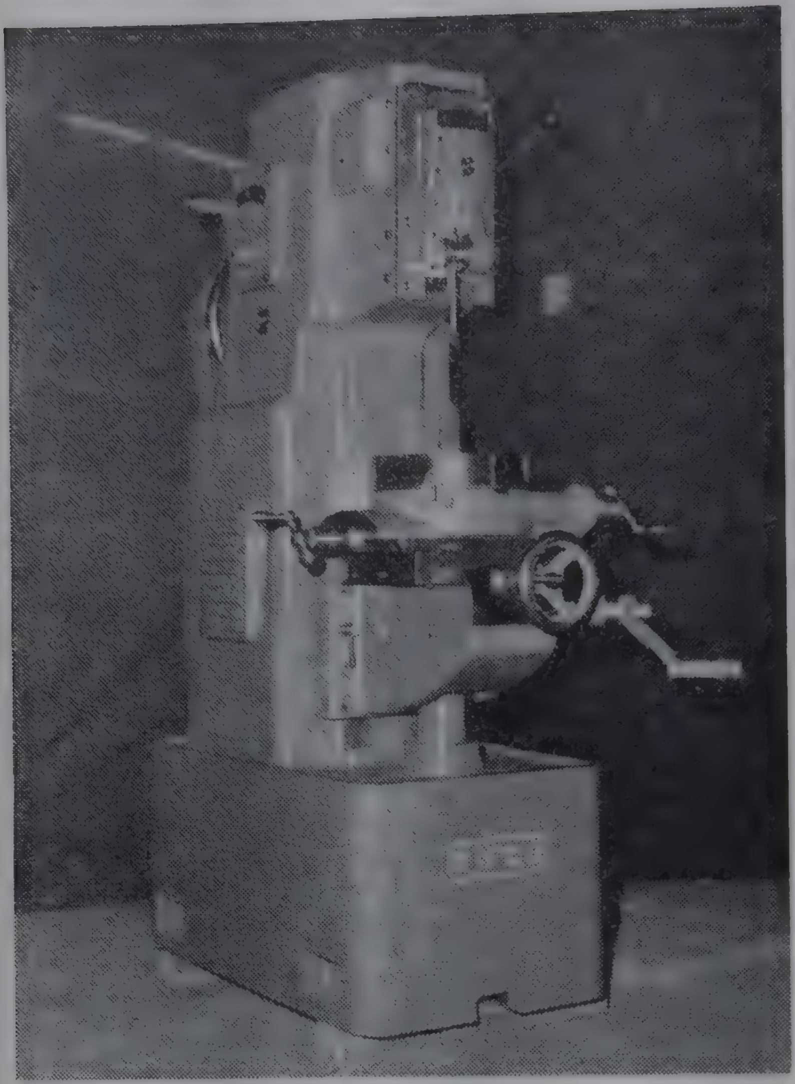
*"Self Reliance" has been India's passion ever since she attained independence. In industry, it means import substitution by indigenous manufacture. Shri K. L. Nanjappa DC(SSI) garlanding Shri Fakhruddin Ali Ahmed, the then Minister of I D, I T & C A who inaugurated a national seminar on the subject.*

will be avoided by the establishment of small centres of industrial production all over the country."

While assigning the small industries an important place in the national economy, the Industrial Policy Resolution of 1956 pinpoints the strategy and other measures for the sector.

"The State has been following a policy of supporting cottage and village and small scale industries by restricting the volume of production in the large scale sector, by differential taxation, and by direct subsidies. While such measures will continue to be taken, whenever necessary, the aim of the State Policy will be to ensure that the decentralised sector acquires sufficient vitality to be self-supporting and its development is integrated with that of large scale industry. The State will, therefore, concentrate on measures designed to improve the competitive strength of the small scale producer. For this it is essential that the technique of production should be constantly improved and modernized, the pace of transformation being regulated so as to avoid, as far as possible, technological unemployment." The Resolution also intended to have industrial cooperatives to promote small scale industries.

The Second Five Year Plan recognized the important role that small scale industries could play in meeting the increased demand for a variety of consumer goods and in reducing unemployment and hence suitable schemes were introduced and implemented to enable small scale industries to compete on equal terms with large scale units through a continuous improvement in their productivity. The Small



*An electric motor for this slotting machine has been designed by S.I.S.I., Madras for commercial manufacture by a small scale unit.*

Industries Assistance Programme included such facilities as supply of machinery on hire-purchase, factory space in industrial estates, participation in Government Stores Purchase Programme on a preferential basis, supply of liberalised credit, etc., in addition to measures for raising the technical and managerial efficiency of small scale industries.

During the Third Five Year Plan, the objectives of the small scale industries development programme were (i) to improve the productivity of the worker and reduce production cost by placing relatively greater emphasis on positive forms of asistance, such as improvement of skill, supply of technical advice, better equipment and credit, etc.; (ii) to promote the growth of industries in rural areas and small towns; and (iii) to promote the development of small scale industries as ancillaries to large industries. In view of these specific objectives, two significant measures taken during the Third Plan period were (a) the adoption of the approved production programme in engineering and non-engineering industries; and (b) reservation of production of certain items in the small scale sector. The special feature of the different objectives of the small scale sector during the Third Plan was to re-emphasise the significance of a decentralised industrial development of the economy. The main idea was to throw a protective ring around the village and small industries in order to ensure their uninterrupted and steady growth. Only in this way could small industries be protected from the pressures of competition from the organized large scale sector. Thus the 'Common Production Programme' emerged during the Third Plan and the essential features of the programme are (a) imposition of ceilings on capacity and production of large scale sector; (b) imposition of a cess on the large sector; (c) reservation of certain fields of production exclusively for the small sector and provsion of comprehensive assistance—technical, financial and marketing—to the small sector. Another interesting feature of the small industries programme during Third Plan period was the emphasis on the development of the small scale industries as ancillaries to large scale industries so as to bring about a balanced and integrated development of both the sectors of industry. Cooperation between these two sectors of industry marks for greater efficiency and fuller utilisation of capacities and results in realisation of the economies of production. The relationship between the large scale and small scale units should be essentially of a complementary nature.

The Fourth Five Year Plan reiterated the earlier basic approach to the development of small scale industries and the following objectives were emphasised viz: (a) to improve progressively the production techniques of small industries so as to enable them to produce quality goods and to make them economically viable units; (b) to promote decentralization and dispersal of industries; and (c) to promote agro-based industries. In order to achieve these objectives, the Plan envisages certain fiscal and other measures and a reorientation of the licensing policy to promote competition and to prevent concentration. In addition to these, the Plan formulates certain positive measures for all round growth of the small sector.

The basic approach to small scale sector's development as outlined in the Industrial Policy Resolution of 1956 and the different national Plans may be summarised as follows :

(i) To create immediate and permanent employment opportunities on a large scale at relatively small cost;

*Small industry has taken to exports in a big way. Shri G.B. Newalker, President, Federation of Associations of Small Industries of India, addressing the participants of a training course organised by SISI, Bombay on Export Marketing.*

(ii) to meet a substantial part of the increased demand for consumer goods and simple producer goods;

(iii) to facilitate mobilisation of resources of capital and skill which may otherwise remain unutilized;

(iv) to help in raising incomes and standard of living of a large number of artisans, craftsmen and entrepreneurs;

(v) to bring about an integration of the development of small industries within the rural economy on the one hand, and large scale industry on the other;

(vi) to ensure by the above means the growth of an efficient and progressive decentralised sector of the economy; and

(vii) to make the small scale industries export-oriented and help export promotion.

Though the Industrial Policy Resolutions, 1956 outlines the basic approach and policy towards small industries, there is an urgent need for clearly enunciating a National Policy for the Development of small industries. Both the Report of the Ad-hoc Committee of the Small Scale Industries Board on Industrial Policy Resolution, 1956 (Lokanathan Committee) and the Report on Small Scale Industries Sector of the Working Group of the Administrative Reforms Commission have emphasised the need for a National Policy for the development of the small scale sector. In the Industrial Policy Resolution, 1956, the reference to the combined category of cottage, village and small scale industries has created difficulties about the implementation of the policy in regard to the modern small scale industries as the requirements of such industries vis-a-vis those of village and cottage industries have undergone changes

*Industrial estates in India do not mean just rehabilitating industries. It is today a powerful instrument to disperse industries in the interior parts and to attract entrepreneurs. A view of the Industrial Estate at Hyderabad.*

and are at present substantially different.

A small industry policy could accommodate the following objectives (1) earmark the sphere of production on a technological basis and reserve items for exclusive production in this sector; (2) ensure supply of finance and raw materials, among others, proportionate to the contribution of this sector to the economy; (3) ensure markets indigenous and foreign; (4) take suitable measures for ensuring quality; (5) formulate an effective policy for ancillary development.

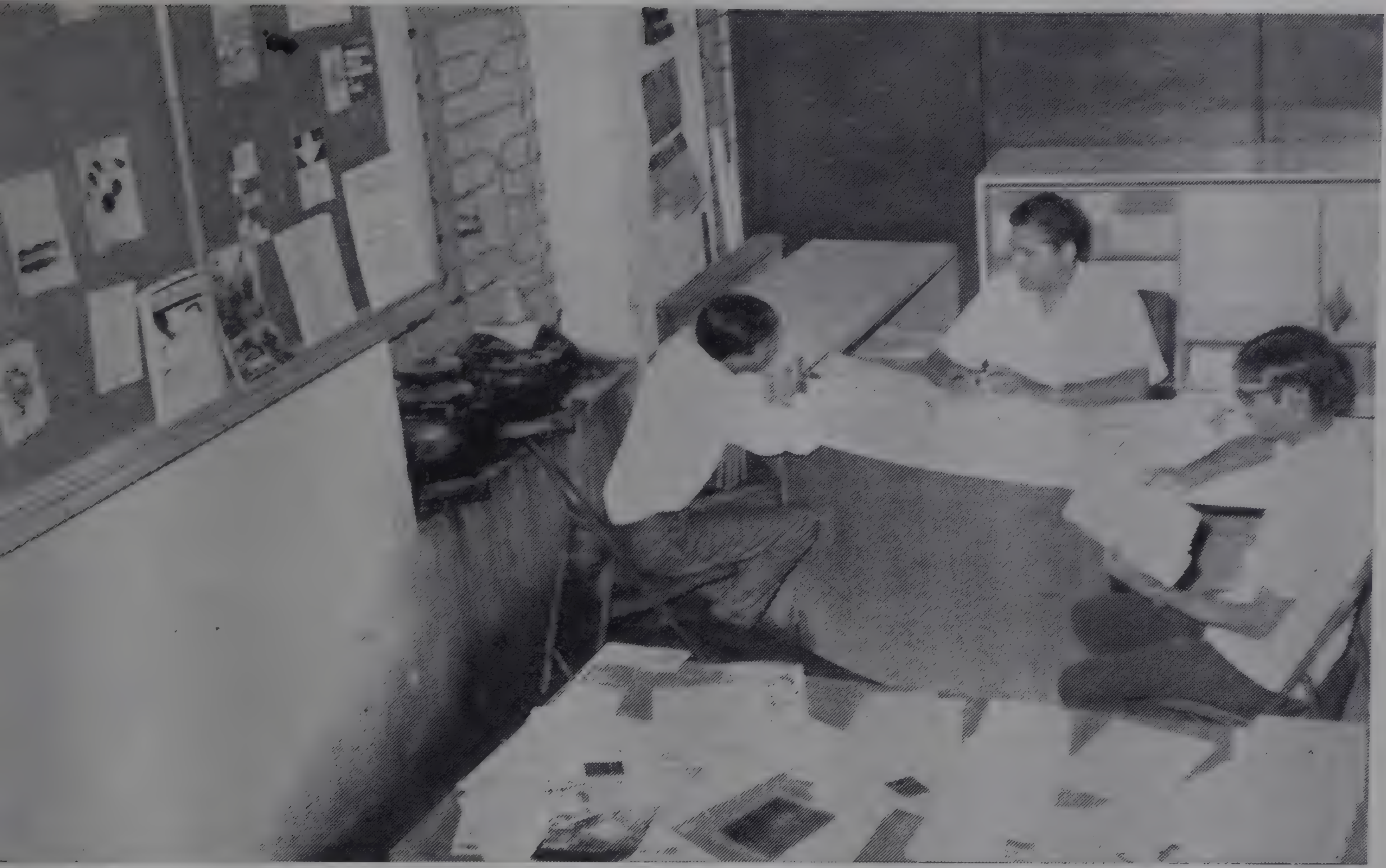
The various measures taken by the Central Government and State Governments and other connected organizations, so far for the development of small scale industries have had their impact on all aspects of production, management and marketing.

### Policy Measures

*(a) Credit*

The credit needs of small industries posed the most serious of all the problems. The State Governments provided credit facilities to existing as well as prospective industrialists under the State Aid to Industries Act. The limitations of the scheme were that the quantum of loan was inadequate and the procedure for obtaining the same involved considerable delay thus defeating the very purpose of which financial assistance was sought. Nor could the State Governments meet the entire credit needs of small industries sector under the provisions of the State Aid to Industries Act. Although quasi-government financial institutions like State Financial Corporations were also functioning in the States, they were mostly catering to the long-term credit requirements of large industrial establishments and therefore they could not cope with the demand for various types of credit required by small scale industries, numerous and widespread as they are.

The banking institutions with a network of branches were therefore called upon to meet the credit needs of small enterprises. The State Bank of India Pilot Project Scheme of financial assistance to small scale industries was launched in 1956. The implementation of the pilot scheme proved that it was quite an effective way of assisting the growth of small scale industries and therefore the facility was soon extended



*Information is, no doubt, a starting point for the entrepreneur. The entrepreneur visiting the SISI is motivated and moulded for a career in a profitable small enterprise. This is the Industry Information Service at S.I.S.I. Ahmedabad. Every S.I.S.I., provides such Industry Information Service to the small industrialists and entrepreneurs in each State.*

to small industrialists all over the country. Since the State Bank of India stepped in to finance small enterprises, the criteria of credit-worthiness and security for granting a loan are of secondary importance only and the primary considerations are whether a small enterprise is technically competent, whether its products are readily marketable and whether the proprietor has the requisite qualification/experience and has the capacity to manage his unit efficiently. This change in outlook on the part of the State Bank of India has had a salutary effect on the development of small scale industries.

An analysis of the bank credit available to industries reveals an unequal distribution of credit between the large sector and small sector. Although the relative contribution of these two sectors to the national income were not very different in percentage terms, the amount of bank credit available to small scale industries was even less than 1/10 of the bank credit so far made available to industries. However, the nationalization of the major scheduled banks will go a long way to change the situation. Credit policy is being streamlined to ensure a greater flow of 'term-loans' and working capital. The government's present policy is to strengthen the capital base of the small scale sector. The Government is considering the need for a separate financial institution to cater exclusively to the credit needs of the small scale industries, particularly for long term loans. The ARC (Administrative Reforms Commission) has also recommended the setting up of an apex financial institution with a paid-up capital of Rs. 25 crores. According to the commission, this special institution should meet short and medium term credit needs besides providing credit guarantee facilities to other financial institutions and operate under agency agreement with the existing institutions such as the State Financial Institutions, the State Bank of India and its branches, Cooperative Banks, etc. It is also proposed that this apex organisation should participate in the equity capital of the small scale units. With the rapid growth of the small scale units there will be greater demand for capital and credit which a central financial institution may be able to meet more effectively. The need for credit, particularly long term credit will grow more rapidly with the reservation of more and more items for production in the small scale sector. The setting up of a separate apex financial institution with a network of branches would go a long way in meeting the credit needs of the small scale sector of Industry.

(*b*) *Raw Material*

Adequate supply of proper raw materials is indispensable for speedy development of the small scale industries. A major problem of the small scale industries is the very limited supply of raw materials of the right type. The allocation of scarce raw materials to this sector has always fallen far short of requirements resulting in the large under-utilisation of capacity in several small enterprises which cannot afford to buy raw materials at prohibitive prices from the open market in order to work to their full capacity. Small industries were being allocated scarce raw materials (both indigenous or imported) by the Development Wing of the Ministry of Commerce and Industry upto the year 1957. Subsequently, the Development Commissioner (SSI) and State Directors of Industries were entrusted with the responsibility of assisting small industries in obtaining scarce indigenous raw materials and of sponsoring their applications for imported raw materials, components and parts. The Small Scale Industries Development Organisation (SSIDO), represents small scale sector of Industry as a whole and is consulted by Ministry of Industrial Development and Internal Trade, Chief Controller of Imports & Exports and the Iron & Steel Controller. It tries to procure adequate allocation of raw materials and foreign exchange for the entire small industries sector and allocate the same to different states. The SSIDO also gives general directions regarding priorities to be observed in the allocation of raw materials to the units in the small scale industries sector. The Small Scale Industries Board reviews the position of raw material allocation through its standing committees and subcommittees, etc. With regard to the availability of foreign exchange for importing non-ferrous metals, various chemical raw materials, etc., sufficient attention is being given in consultation with the Chief Controller of Imports and Exports. In view of the chronic nature of the problem the Lokanathan Committee on Scarce Raw Materials appointed in 1966, recommended, that, the requirements of the small scale sector should be scientifically assessed by the State Directors of Industries in collaboration with the SSIDO, so as to ensure a more equitable allocation of scarce raw materials between the large scale and small scale sectors of industry.

The import policy was radically changed after the devaluation of the Rupee and the scheme of import liberalization was introduced. This scheme envisaged liberal assistance for import of raw materials, components and spares to industrial establishments to facilitate fuller utilization of their existing capacities. For this purpose, the industrial sector was divided into priority and non-priority categories. Initially 32 industries of the small scale sector were benefitted by the scheme. Under the scheme these industries are entitled to draw "maintenance imports" to be able to achieve fuller utilization of capacity. But most of the small industries fell outside the category of the priority industries and were therefore unable to utilize their capacity fully due to inadequacy of imported raw matrials. The restrictive formula of granting import licenses on repeat basis to non-priority industries has had an adverse effect on the growth of the small scale sector. The Administrative Reforms Commission (ARC) felt that the classification of ancillaries (with the exception of only two) as non-priority would effect adversely the growth of the ancillary industries. In view of the increase in the number of items reserved for the small scale sector, it is essential that small enterprises should have the same facilities as large scale units to procure the basic raw materials, both indigenous and imported, for fulfilling their targets of production. The most welcome policy decision made by the Union Ministry of Industrial Development is to allocate raw materials to the small scale sector on the basis of the production capacity rather than value of the machinery installed in each small scale unit. Raw material requirement of the small scale sector is being assessed on the basis of production capacity of the individual units and once the assessment is over, allocation has to be made on that basis. While this is good as far as it goes, the element of inequity continues in as-much-as the allocation of raw materials to the units in the large scale sector is on the basis of 2 or 3 shifts per day whereas the allocation to small scale units is to be made on the basis of single shift per day.

(*c*) *Fiscal Measures*

In the initial stage of industrial development of an economy, structural and other economic rigidities have hindered the healthy growth of an industry, both large and small. Fiscal incentives to small industries provide the lever for their steady and healthy growth. In our country there are no fiscal measures specially suited to the small scale sector. The measures like differential taxation and the levy of excise duties as stated in the Industrial Policy Resolution, 1956 were not quite effective. As regards differential taxation and subsidies, it may be said that the grant of subsidies has benefited traditional industries like handloom, handicrafts, etc., and not modern small scale industries using machine and power. In the matter of levy of excise duty (which again is applicable only to a few items like footwear, soaps, electrical batteries and parts thereof, paints, radios, straw board and mill board) there has been some differentiation based on scale of production, number of workers employed, quality of the production, etc., but the rate structure was not quite favourable to small scale industries; excise duty has been mostly related to the size and type of the products, and very rarely to the scale of operation or size of the unit. While levying excise duty, it has to be ensured that small scale producers derive the maximum benefit. The levy of differential rates of excise should be designed to give a fillip to the mechanised small scale units and the types of concessions granted to village and cottage industries at present should be extended to modern small scale industries also, in terms of the Industrial Policy Resolution. Special assistance should also be provided to the small scale sector to enable them to enter export markets abroad. Japan, which is the pioneer in the development of modern small industries, has provided a number of tax concessions to the small enterprises, particularly tax relief in the form of (a) deductions in the basic income for income tax, (b) reduction of corporate tax rate for business and cooperatives, (c) reckoning of proportionally allotted dividends as loss, (d) reckoning of profits reserved as loss, (e) special measures in the levy of local taxes like exemption from enterprise taxes, exemption from fixed assets taxes, etc. (f) tax-relief measures for structural modernization of the small business sector, (g) accelerated depreciation of equipment and facilities for promoting rationalization particularly of small enterprises, as incoporated in the Small Business Modernization Promotion Law, (h) special tax deduction in respect of expenditure on research and testing costs, and (i) tax measures for export promotion like accelerated depreciation. Such a wide range of tax reliefs have gone a long way in promoting the development of the small scale sector of industry in Japan. In India, where the small scale sector is gradually emerging as a vital element of industrial development, a reorientation of the tax structure is quite essential.

### (*d*) *Managerial & Technical Assistance*

In India, entrepreneurial ability was limited in the past. As a result of the constant and vigorous efforts of the SSIDO through its Institutes in different states, a large number of entrepreneurs have set up several small enterprises all over the country. These entrepreneurs, however, need guidance and training in management. A cadre of officers of the SSIDO specially qualified in management techniques and practice have trained a large number of small industrialists in various branches of business and industrial management through a series of well-planned training courses organised at various centres of industrial and commercial importance in the country.

With the advancement of technology, small industries have made commendable efforts to modernise their methods of production, management and marketing and have achieved considerable success in many lines of production. Programmes of Assistance such as the hire-purchase of machinery provided by the National Small Industries Corporation Ltd., technical consultancy services, training in technical trades, provision of improved designs, development of prototypes etc. provided by the Small Industries Service Institutes of the SSIDO have been instrumental in making a majority of small enterprises technically competent and economically viable units. Moreover, small enterprises have also been enabled to enter many new lines of production.

### (*e*) *Marketing Assistance*

Lack of proper and adequate marketing facilities is one of the problems that hinder the rapid growth of small industries. Since small industries cannot afford to spend on scientific market research and reliable market intelligence, the SSIDO has again met this need by providing advice, guidance, training and assistance in marketing. Purchase Programme,-for example, has been of considerable assistance to small enterprises. The NSIC helps the small units in participating in this programme. Many items of stores are exclusively reserved for procurement from the small scale sector. In respect of others, small enterprises are entitled to price preference upto 15% vis-a-vis similar stores tendered by large scale units.

Small enterprises have also been encouraged and assisted in supplying a large number of parts and components required by large industrial establishments in the public and private sectors as their ancillary units, the SISIs in each State acting as liaison between large and small enterprises.

Marketing assistance is also rendered to small industries in actually marketing their products by conducting market research and investigation surveys. Distribution aid surveys for specific products of particular entrepreneurs are conducted to provide adequate knowledge of potential markets for the products and the appropriate measures to exploit such markets.

The basic strategy adopted in rendering assistance to small industrialists in the marketing field is confined to providing marketing research rather than to sell their products. Measures are taken to make the product more saleable in terms of quality, price and sales appeal. Even the entrepreneur is equipped to sell well by training. However, it is heartening to note that some of State Small Industries Corporations have also begun to sell selected small industry products both within the country as well as abroad by opening sales emporia. This is a step in the right direction.

**New Strategy For the Small Scale Sector**

(*a*) *Improvement in Technology*

Spectacular growth of small scale industries during the last fifteen years is the result of the comprehensive programmes of assistance and encouragement and the favourable circumstances of a large and rapidly growing indigenous market for a variety of consumer and producer goods. With the growth of the small scale and large scale sectors of industry in the country, however, the initial advantage of 'sellers market' is disappearing and there is keen competition not only between the products of large scale and small scale units but also between the products made in the small scale sector itself. The survival and success of a small scale unit in this changed situation has brought into sharp focus the imperative need for improving the quality, adopting well-recognised standards and reducing production costs. Such a situation was not unexpected and perhaps was welcome too. Even developed countries had to go through this inevitable and essential process of evolution in industrial development. The experience of Japan in the post-war period illustrates the point. Japanese goods not too well-known for quality steadily improved in quality and in a short time came to be recognised as equal to that of similar goods produced by other industrially advanced countries. The measures taken for rapid modernization and rationalisation of industry accounts for the phenomenal development of Japanese industry.

Small Industries in India are going through a process of evolution. It is high time that obsolete machinery and technology are replaced by "appropriate" technology using modern machinery, that standard specifications are adhered to and that every effort should be made to improve productivity, to reduce cost and to enhance the quality and functional utility of the products.

The Government of India felt the urgency and need for a suitable scheme of modernisation of the small industries sector and appointed a Study Team on Obsolescence and Modernization of Machinery in the Small Scale Sector in 1967. The committee recommended the selection of five important industries in the small scale sector to start with a process of modernization. The five industries selected were machine tools, automobile parts and accessories, foundry and rerolling, domestic electrical appliances and hosiery. These industries were selected from among the categories of (i) industries which are making significant contribution to the economy; (ii) industries with export potential, (iii) industries where the rate of growth is high even if it is capital intensive; (iv) industries where value added by manufacture is very high; and (v) ancillary industries.

For implementing the process of modernization the Study Team recommended special incentives and tax reliefs, financial assistance and technical guidance to the small scale units, in addition to regular raw material supply, both indigenous and imported, supply of right type of machinery with Government help and other assistance. Further the team proposed an increase of development rebate from 35 to 40 percent, special depreciation allowance, assured marketing facilities, particularly that of Government Stores Purchase, cheaper finance, etc.

(*b*) *Export Orientation*

It is but appropriate that small industries should play their due role in augmenting the foreign exchanges resources of the country by entering into export markets. These industries are contributing nearly 40 per cent of the total industrial production in the country and constitute 91 per cent of the total registered factories. Their production, as pointed out earlier, ranges from simple consumer goods to sophisticated products, intermediate and capital goods. In view of the wide range of their production and modern

*The range of products manufactured in the small scale sector is getting more and more comprehensive and includes several sophisticated items of high precision. Here, the proud proprietor of the unit manufacturing taxi meters explains his achievements to Shri Bhanu Prakash Singh, erstwhile Deputy Minister for Industrial Development, Government of India, while Shri R.A. Patil, Minister for Industries, Government of Maharashtra and Shri L.R. Upasani, Director, SISI, Bombay look on during a Seminar organised at Poona in Maharashtra.*

techniques of production adopted by them, small scale industries can, in a majority of cases, cater to export markets both in developed and developing countries. India has a comparative cost advantage in production and with cheap labour small industries can compete in international markets better. Given adequate incentives the small industries in India would be able to offer a variety of commodities of equally acceptable quality at a lower price. The great export potential of the small scale sector merits serious consideration.

The Export Policy Resolution, 30th July, 1970 reiterates the steady increase in the demand, especially in industrial countries, for labour-intensive products. A number of these items can be manufactured economically in our small scale sector. "Every effort will be made to organise their production and marketing so as to secure quantitative and qualitative adequacy of their output and sales." The SSIDO through the SISIs in each State renders export consultancy services and training in export marketing. Up-to-date information is provided on incentives, facilities for exports and procedures to be followed. The SSIDO maintains liaison with the STC regarding selection of units and products in the small scale sector for purposes of intensive export promotion. The Small Scale Industries Board has constituted a standing committee on Export Promotion to study the problems of export of the small industry products.

The Japanese Government provides a number of incentives to promote exports of small industry products. Adequate financial assistance is given to small scale units by the Export & Import Bank of Japan. Export Associations are organised by exporters under the Export & Import Transaction Law, to carry on market research and publicity in overseas markets and to maintain standards of quality, packing and price of the products for exports. The Japan External Trade Organization carries out market research and undertakes to promote exports of Japanese products.

In India, regular and adequate raw material supply, required credit facilities, proper fiscal incentives and simplified procedures will go a long way in boosting up exports. An organised and systematic attempt should be made for the development of exports from the small scale sector. Overseas market research should be stepped up so that small industrialists are informed about the type of products in demand, their specifications, price, packing, shipping schedule etc. at regular intervals.

### (*c*) *Decentralization*

"Balanced development of different parts of the country, extension of the benefit of economic progress to the less developed regions and widespread diffusion of industries are among the major aims of planned development." The 4th Five Year Plan lays great emphasis on the dispersal of industries to promote balanced development of the large and small industries and to ensure a more equitable distribution of economic gains.

The Government has taken a number of promotional measures to encourage the establishment of industries in backward areas; important among them being the identification of areas in which various basic economic facilities such as electricity, larger supply of agricultural raw materials, improved means of transport, etc., are available or would become available. Intensive campaigns have also been organised by the SSIDO in potential pockets/districts in various states having the basic infrastructural facilities, to identify and encourage prospective entrepreneurs to set up small scale industries in such areas.

However, in spite of all these efforts, the progress achieved in this direction is not quite encouraging. The Government has to take vigorous efforts in providing economic overheads to the small entrepreneurs. Adequate credit facilities on easy terms are to be provided in the remote areas. Now that the important banks are nationalised, it will be easier on the part of the Government to cater to this need.

### (*d*) *Reservation and Licensing*

Since the inception of the Industrial Policy Resolution 1956, the Government is constantly trying to increase the number of items to be reserved for production in the small scale sector. The policy of delicensing of items which are being manufactured substantially in the small scale sector at present may adversely affect not only the existing units in the sector but also the future growth of the small scale units since a good number of large scale units may step into these fields of production. Careful examination of the policy of delicensing and its effect on small scale industries is essential. The intention of the Government is, however, that all items (consumer goods and producer goods), which are technically and economically feasible to be produced in the small scale sector, should be excluded from the provisions of licensing so that small scale units may be free to grow in these lines of production and thus facilitate the broadening of the base of operation of small scale units and help canalize the flow of new investment in only such large scale undertakings as require the use of sophisticated technology or relatively high level of mechanization and automation.

The desirability of developing sound ancillary enterprises in the small scale sector, calls for a reorientation of the industrial licensing system. Industrial licences granted to large scale undertakings generally include manufacture of parts, components, sub-assemblies, etc. which are actually capable of being manufactured in the small scale sector. It is therefore, necessary to ensure that wherever subcontracting and ancillary production are feasible, the industrial licences to the large scale units should be granted only after excluding the capacity for the manufacture of such components, sub-assemblies, etc., as can be produced by the small scale units. The development of small scale industries should be dovetailed to the development of large scale industries and this would be possible only by close cooperation between the Directorate General of Technical Development and the Small Scale Industries Development Organisation, Government of India.

### (*e*) *Import Substitution*

Import substitution ensures self-reliance and self-sufficiency which are quite essential for rapid industrial development. Incidentally every successful attempt at import substitution saves valuable foreign exchange. There has been substantial achievement in this sphere, particularly in the small scale sector. A number of items which were hitherto imported have been developed and produced by the small industries of the country. The small scale sector of industry is producing a large number of components, machine tools, machinery and other parts and sub-assemblies, engineering goods which were previously being imported. Import substitution should be accompanied by quality control. The Government's Policy has been to develop as many industries as possible with indigenous technique and with less foreign exchange component.

### (*f*) *Intensive Development of Selected Fields*

Small industries in India today have entered diverse fields of production with surprising efficiency and success. From the point of view of balanced development, certain industries have been stressed for intensive development. Great emphasis has been laid in the different plans, and particularly the present 4th Plan, on the intensive development of agro-industries. In India, where agriculture contributes a major share of the national income, there is need and scope for intensive and extensive development of agro-industries. These industries not only provide immediate employment opportunities, but also utilise the agricultural raw materails, mop up rural investment in new industries thereby providing additional income to the rural people and last but not least these agro-industries would arrest the out-flow of rural manpower by providing employment opportunities locally.

It has been a major policy of the Government to direct development efforts in selected industry groups so that comparatively better results take place in a shorter time. The intensive development of industry groups like chemicals, particularly paints and dyes, pesticides and plastics in the small scale sector has been quite significant. The sector is poised for a leap forward in more sophisticated fields of manufacture like electronics and electrical measuring instruments, thermo-plastics and manufacture of precision scientific instruments. Air filters, brake linings, gaskets, engine valves, oil seals, voltage regulators, emulsifiers, testing meters, audio oscillators, electrolytic condensers, timing relays, thermostats, etc., to mention only a few which were hitherto imported into the country are now being manufactured in the small scale sector of industry as a result of the intensive development efforts.

### Legislation

In India there is no specific legislation to guide and regulate the development of small industries. The need for such a legislation is being felt at present. According to the Indian Constitution the responsibility for the development of small scale industries rests with the State Governments and therefore the Central Government is not in a position to bring in legislation of a national character acceptable to all State Governments.

In many cases, absence of any legal provision has substantially affected the development of small industries. The intention of the Government, for example to purchase a substantial part of the Central Government Stores from the small scale sector has been only a partial success.

Fiscal incentives through legislative protection is absent in India. A comprehensive legislation is urgently required to specify the fiscal policy for the small scale sector.

Legislation is badly required to make registration of small enterprises compulsory, to collect basic statistics from small scale units, to ensure supply of adequate and cheap institutional finance, to regulate allocation of scarce raw materials (imported and indigenous) and foreign exchange to incorporate fiscal measures designed to protect the interest of small scale units etc.

In U.S.A., the development of small industries and their regulation is governed by the Small Business Act, 1958. This Act enabled the Government to set up a special independent agency called the Small Business Administration. S.B.A. takes prime contracts from the procurement agencies of the Federal Government and to arrange for their execution through sub-contracts to small businesses. Further, another legislation in U.S.A. for developing small business enterprises is the Small Business Investment Act of 1958, which facilitates the financing of equity capital and granting of long term loans required by Small Businesses for their growth, expansion and modernization. Thus, even in an advanced industrial country like America which is wedded to an economic system based on free competition, there was a clear acceptance and realization of the responsibility of carrying out the national policy for the development of small industries and this was sought to be achieved through suitable legislation.

Japan also found that the evolution of a policy for the development of small enterprises and the primary agencies for implementing the same should have the support of statutory authority to be effective. Japan therefore has enacted several legislations like financial laws; organization laws; labour laws; laws on the adjustment of disadvantages; specific small scale enterprise laws and laws concerning special measures. Thus the whole gamut of legislation covers almost all the aspects of small industries in Japan.

In India also serious attention has to be given for enacting appropriate legislation to protect the interests and foster the growth of small scale industries. Legislation will help the Government to coordinate the implementation of various policies effectively.

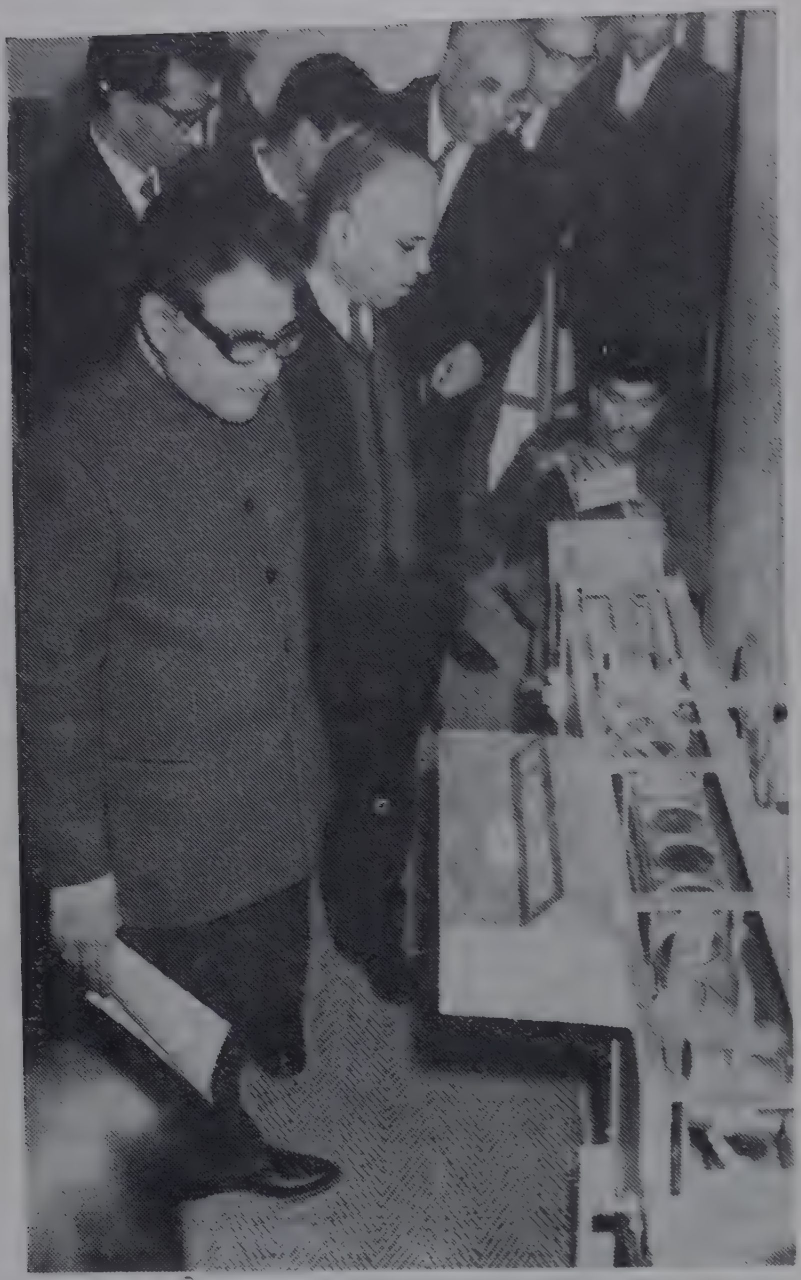
### Conclusion

Small industries in India have emerged as a modern industrial sector of the national economy with high potential of growth and expansion. The facilities and incentives provided by the Government and other allied organizations had been in no small measure responsible for transforming small industries into modern and economically viable units of production capable of self-sustained growth. Small industries have not only been able to produce a wide range of consumer goods and producer goods to meet the internal demand for them but have also been able to enter, though only in a small but sure way, into international markets owing to the adoption of modern techniques and continuous improvement in productivity. Many desirable socio-economic objectives such as creation of utilisation of untapped resources of capital and skill, development of entrepreneurial ability, gradual integration of the large scale and small scale sectors of industry and capital distribution of industrial activity to reduce regional disparities have been achieved to a greater or lesser extent through the development of small industries. In a vast country like India, what has been achieved in the last two decades, though of considerable significance is, not much, considering what remains to be achieved and is capable of achievement given the will and the purposeful direction of developmental efforts. The invaluable experience and expertise gained are great assets which will surely go a long way in building up a dynamic, modern and self-reliant industrial economy.

# APPROPRIATE TECHNOLOGY

INDUSTRIALISATION is an accepted need of every developing economy. This makes it imperative to replace by and large the traditional technology holding sway over the major area of economic activity by an advanced technology. The fact, however, remains that an advanced technology of the type adopted in the Western world which is highly capital-intensive (and as such comparatively less labour-intensive) places greater reliance on sophisticated machines rather than on the skill of man. In the situation prevailing in India where capital is scarce and labour remains unused and idle, which is characteristic of almost every developing country, primary attention has to be given to the question of providing employment to the teeming millions of people unemployed wholly or partially. Capital-intensive type of technology cannot, therefore, possibly be adopted in toto in our country in an extensive manner; its use has to be limited to certain key sectors only which involve much larger investments. A pertinent question would, therefore be, to ask and answer as to what should be the level of technology appropriate to a stage of economy where widespread employment opportunities are required to be created in a large number of villages and towns at wages which would permit a reasonable standard of consumption leaving a small margin of savings. Thus we have to think in terms of a new pattern of technology, an Intermediate Technology, which has been so designated by Dr. Schumachar.

Intermediate Technology is a relative term and is linked up with something 'high' or 'advanced' on the one side, and low or the 'back-ward' on the other. The elasticity and undefined coverage of the term 'intermediate' has permitted it to be interpreted in various ways, depending on the background and convictions of the interpreter. The term 'intermediate technology' was first introduced by Dr. Schumachar, a Consultant to the Planning Commission, in his paper entitled "Reflections on the problems of bringing industries to rural Areas" written in November 1962. Adoption of technology of an intermediate type was advocated by Dr. Schumachar to solve mainly the complex problem of massive unemployment in the rural areas of our country. He was of the opinion that in a heavily populated developing country like India where unemployment problem was acute and also growing from day to day, a choice had to be made in regard to a level of technology so that the apparently inconsistent objectives of creating large employment opportunities with the available material resources and producing goods on a competitive cost were reconciled. The level of such a technology, Dr. Schumachar felt, should be midway between that of the traditional cottage industries on the one hand and of the modern large scale industries on the other. He, therefore, felt that a technology costing Rs. 1,000 in fixed capital per work-place (other than the cost of land and building etc.) would be appropriate for rural



*An important ingredient of the Small Industry Programme is the development of "appropriate technology" by the adoption of which labour can function more efficiently without being displaced. Shri Bhanu Prakash Singh, the then Deputy Minister, ID, IT & CA Government of India, Shri K. Balachandran I.C.S., Additional Secretary in the Ministry of ID & IT, Government of India, closely watch the performance of a Can Washer & Steriliser used in Fruit Processing & Canning industry. Shri K.L. Naniappa, DC(SSI) whose organisation helped the manufacture in his endeavour, is in all smiles.*

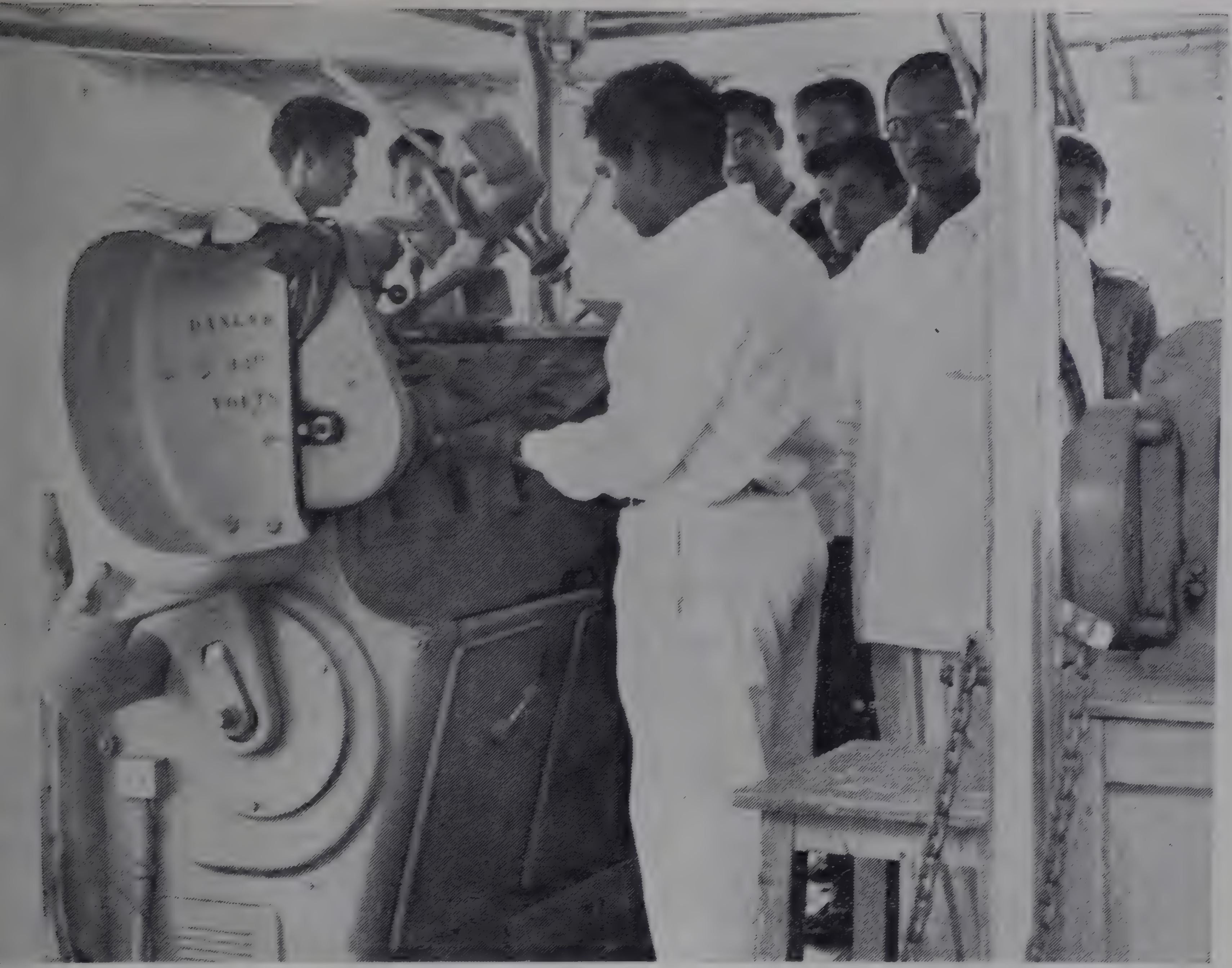
India. The relevant excerpts from the said paper of Dr. Schumachar bringing out clearly the formulation of the concept of 'intermediate technology' are reproduced below:

> "If, therefore, it is intended to create millions of jobs in industry, and not just a few hundred thousands, a technology must be evolved which is cheap enough to be accessible to a large sector of the community than the very rich and can be applied on a mass scale......
>
> I believe that it is not very difficult, from an engineering point of view, to devise such a technology, provided the engineers can be told in fairly precise terms what is wanted.... The simpler the specifications, the better will be the results, and the simplest would be a statement of the amount of money to be spent on the equipment of each work-place. As a start, I should therefore suggest that the average investment per work-place in manufacturing enterprise suitable for widespread rural industrialisation, would be of the order of Rs. 1,000 not counting the cost of building. In some cases, no doubt, Rs. 2,000 per work-place could be fully justified; in other cases, a much smaller amount might suffice. What is needed, I suggest, is that detailed design studies should be undertaken on this basis for all industries envisaged for establishment in rural areas. The studies themselves will disclose whether this average of Rs. 1,000 is realistic.... The 'intermediate technology' is required in two versions, with electrification and without.... It is possible and even probable that far more of 'intermediate technology' exists already than is known to any one person or authority. The proposal....to create a 'Technical Information Service—To serve Rural Needs' therefore deserves sympathetic consideration."

Three points emerging from this formulation are:

1. The concept of 'intermediate technology' is put forward in the context of a promotional programme of small industries in rural areas for creating widespread employment;
2. The main specification of 'intermediate technology' is stated in terms of an average investment of about Rs. 1,000 per work-place. The related specification of a wage of at least 2 rupees a day is mentioned but rejected because it would be "asking the engineer to go beyond his competence and become a business-man"; and
3. The probability of 'intermediate technology' already existing and only waiting to be documented through a technical information service is recognised.

While investment in fixed capital, as suggested by Dr. Schumachar, is a good measure of the level of technology in some industries, it seems that in others, working capital is far more important and cannot be ignored. Even the total amount of capital employed per work-place or job may not provide a satisfactory criterion if the level of wages which it can yield does not conform to the minimum which



*Leather is, no doubt, an important foreign exchange earner. But exports of finished products from leather means much more to India. In order to train the artisans in leather trade, mobile workshops with small machines conduct demonstration and training regularly to upgrade the skills in rural areas. The picture shows one such demonstration in progress.*

will induce a person to invest his savings or alternatively, to incur a liability by borrowing from Government, banking institutions, a moneylender or a friend. The contingency of a large number of unemployed persons not offering themselves for work in an industry where wages do not correspond to their expectations cannot be ruled out, even in industries where they do not have to make the investment themselves. With rising expectations and with a new generation not too keen on following the traditional occupations of their fore-fathers because of the relatively low remuneration available in these occupations, 'intermediate technology' will have to satisfy a rather hard test. It will have to be both cheap and productive, not to make too heavy a demand on savings and at the same time to provide acceptable wages. An equally stiff test is involved in the capacity of such a technology to provide large scale employment on the one hand and to be sufficiently productive on the other.

The investment per workshop specification favoured by Dr. Schumachar however does not hold good in industries using specialised or artistic skills. As a matter of fact, evolution of a level of technology development, cannot perhaps be dependent on only one factor. Experience of the past decade has shown that the capital investment alone is not the determinant factor for an appropriate level of technology. There are other far more important factors which would need careful consideration before a certain

*Technical officers of the SISI, Bangalore analysing flour mill parts and components for any possible improvement in design.*

technology can be termed as appropriate. The questions relating to cost of production, wages, geographical and time cosiderations can be neglected only at great risk. While Ambar Charkha was a considerably improved equipment compared to either the Takli or the Kisan Charkha and could be categorised as 'intermediate technology' because of its low capital cost (which could well be afforded by India), it failed mainly because it did not provide an adequate wage to the spinner. Therefore, in determining an appropriate technology one cannot ignore this as well as other important considerations.

Another related point to be considered in this regard is whether the technology identified as intermediate or appropriate will also be economically viable in the sense of its products being saleable. This is essential since any basic approach for deciding the appropriateness of any technology in the given circumstances of our development would depend upon the estimates of comparative advantage. This evaluation would depend on a detailed study of various factors such as the level of demand existing in the economy, the total cost involved in producing the article with relative technologies, the availability of industrial raw materials and the problem of transport cost. As a matter of fact, it is the final delivery cost to the consumer which is the ultimate test of the worthwhileness of any product and therefore, of any technology. Since the level of wages and cost of production are closely related to time and place, geographical and periodical factors will also need close scrutiny in evolving technologies appropriate for a country. Besides, an appropriate technology for one area or region may be either too superior or too inferior to the one evolved for another area or region; the needs and aspirations of the people, pattern of culture, national resources, human potential etc., differing from region to region. Similarly, a technology which may be appropriate today may become absolete in 5 years time. It is, therefore, quite evident that capital investment is not the only consideration for determining the appropriate level of the technology.

The concept of 'intermediate technology' has since evoked great interest in our country and has been discussed frequently at various seminars and meetings convened both by the Government and no-offical agencies. The subject first came up for discussion in an informal meeting held in April 1963 at the Planning Commission. In January 1964, at the instance of the Planning Commission, the Small Industry Extension Training Institute at Hyderabad organised a Working Group to consider the various problems related to 'intermediate technology'. Again in March 1964 a seminar on the subject was organised by the Rural Industries Planning Committee of the Planning Commission at New Delhi. At these seminars the problems relating to 'intermediate technology' as posed by Dr. Schumachar were discussed in great detail. Briefly, the Working Group which met in January 1964 unanimously reached the conclusion that "model" comparative cost studies of different technologies should be made and also that the methodology and the plans of making comparative cost studies of technologies in respect of selected products should be worked out. The seminar which was organised in March 1964 recommended that comparative cost studies of technologies may be made in 23 selected industries with a view to determining the appropriate technology. It also recommended that the Small Scale Industries Development Organisation should be entrusted with the work connected with these studies as well as with the designing of new equipment embodying the appropriate technology. In pursuance of these recommendations, the erstwhile Ministry of Industry had also formulated a proposal for the establishment of an Institute of Intermediate Technology and Technical Information and Documentation Centre. This proposal envisaged the location of the Institute partly at the Headquarters office and partly in the building of the Small Industries Service Institute at Okhla so that the technical officers could make the best use of the workshop facilities available in the Institute as well as in the Prototype

*Development Commissioner (SSI), Shri K.L. Nanjappa observing the working of a skiving knife. Simple equipment such as this, adds to the quality of workmanship and increases the productivity of the worker in the leather footwear industry.*

Production-cum-Training Centre at Okhla. The proposal was not, however, implemented mainly because of financial stringency.

The need for the establishment of such an Institute was thereafter also emphasised by the Estimates Committee of the Parliament as well as the Ashoka Mehta Committee on Khadi & Village Industries. The Estimates Committee had felt that Government should critically examine as to how far the needs of the small scale industries can be met by the facilities available with the Council of Scientific and Industrial Research, National Laboratories and, if necessary, to make a modest beginning for setting up a separate Institute of Intermediate Technology for research in the technical problems of small scale industries. Later the Ashoka Mehta Committee recommended that a Technological Research Institute for small industries should also be set up to conduct research into problems of appropriate technology for rural industries and to assist and advise the Rural Industries Commission as also the State Boards about the solution of technical problems of development of rural industries. The Ministry of Industrial Development and Internal Trade has since convened a few meetings to consider the various problems relating to appropriate technology in relation to the Rural Industries Programme. In one of the meetings it was decided to constitute a small committee to consider the matter further and submit its report in about 3 months time.

The question of intermediate technology has also been taken up by many non-official organisations. A few persons interested in the problem of intermediate technology which included administrators, scientists and economists met in Delhi in July 1967 and constituted a group known as the Appropriate Technology Development Group. One of the points made at the meeting of this group was that any technology which was not as efficient as the most advanced technology of the developed countries but was more efficient than the traditional technology of the developing countries answered well to the description of intermediate technology. In this sense most of our large industries and mechanised small scale industries were already using intermediate technology and it was considered that they might be encouraged to continue along this course. Another suggestion made was that a developing country might, with advantage, purchase and use the obsolete or discarded machines of the developed countries as an effective step towards the adoption of intermediate technology. In this meeting, Dr. D.K. Malhotra of the planning Commission, advocated dropping of the term 'Intermediate Technology' altogether; and speak instead of a Technology or Technologies 'appropriate' or suitable for different types of industries. This was so suggested because the term 'appropriate technology' was self contained, reference upward to a high point and downward to a low point. Moreover, it was not based on implicit assumption that for all rural areas and industries, Intermediate Technology would be the correct technology. The appropriate technology could be advanced, intermediate or low level technology, depending on the area, industry or a given situation.

In August 1967 the Gandhian Institute of Studies, Varanasi, also organised a seminar on the subject. A large number of Economists, Industrialists, Research Workers and Economic Administrators participated in this seminar. This Institute also formulated a draft proposal for the establishment of a National Institute for Intermediate Technology mainly to act as a National Documentation and Reference Centre for Research on technology and processes of small scale industries, to formulate problems which could be posed to technicians and Research Institutes as also to sponsor experimentation with new techniques etc. In the same year the Intermediate Technology Development Group (ITDG), founded in the U.K. by Dr. Schumachar and a few others interested in the subject, published and illustrated a directory entitled "Tools for Progress" which contained description of simple tools and equipment available for immediate application in developing countries. In January 1968, a Conference was organised by the Intermediate Technology Development Group and St. Cross College at Oxford on the further development of appropriate technologies for communication to developing countries. It is understood that some African countries have since approached the ITDG for assistance in different forms. In July 1968, the Vaikunthabhai Mehta Smarak Turst, Bombay, also organised a Workshop Seminar to discuss various problems of decentralised industries which fall within the purview of the Khadi and Village Industries Commission. At this Seminar, it was indicated that the adoption of better technologies suited to the small scale units would be of considerable help in mitigating the higher cost of production in this sector. One of the important conclusions reached at the Seminar related to the need for setting up of an Institute of Technology. It was also agreed that the Trust should undertake the function of documentation with regard to Appropriate Technology to start with. During the past few years several voluntary groups associated with international groups have also been set up. It is therefore necessary that a proper coordination between the various organisations engaged in the task of evolving Appropriate Technology under Indian conditions is maintained. With this end in view there is a proposal to set up a National Organisation to deal with Appropriate Technology.

**Identification of the Problem**

The statement of various specifications or elements put forward by various Authorities only lays down the contours for intermediate technology. The Central task is to identify and locate the technology if it is already in use or to create it by design and manufacture, if it does not exist. In either case the effort will have to be carried out over a vast field, with an almost baffling vista of technical possibilities.

Besides, as is well known the technology adopted by our Industries has not largely been through a process of local innovations based on our needs but through import from abroad. Obviously therefore, there is no appropriate technology for any commodity for all the less developed regions of the country. It becomes, therefore, necessary that the problem facing the production programmes of different articles in different regions should be scientifically assessed.

For each industry and each region, the appropriate level of technology will have to be identified and

*Many foundries in the rural areas require technical assistance. The technical officer of SISI, Ludhiana is demonstrating the laddle alloy addition during cupola operation in a small foundry.*

located or created. The number of permutations and combinations will be immense. A further complexity may be introduced by the fact that intermediate technology in some industries may consist not so much in the use of equipment as in the use of a new process or a different combination of factors of production. There is also no denying the fact that if the units in rural and backward areas have to be viable and strong enough to compete against the production in large scale sector, it is necessary that they get appropriate technological support. But before they can be given the appropriate technological support needed by them, different technical problems relating to the operation of machines as well as the appropriateness of machines would have to be properly assessed and adequately tackled. This calls for identification of suitable plant size for carrying out certain operations on a limited scale, suitable to the genius of people and their environment in rural areas. The identification of suitable techniques has first to be taken up in such fields of industries as are of immediate interest to rural areas. In other words, industries deserving urgent attention are the ones which require immediate improvement in the techniques of production and which at the same time offer scope for the utilisation of untapped local raw materials. It is also possible that some times the technologies identified may imply decisions regarding the suitability of various alternative models or types of machinery prevalent for the production of a specific commodity. Such a decision would, of course, require a consideration of the average investment per work-place in a manufacturing enterprise or wage specification relevant to that region.

The problem of identification is difficult in many ways. It may involve locating the manufacturers of machines which are required for the industry under study, the various technological problems involved in the manufacture may also have to be considered and possibilities for reducing cost of manufacture keeping in view its production capacity and suitability to different regions, would require an assessment of the need for the users of the machines. They will have to be contacted, their views ascertained, the market possibilities surveyed, proper cost analysis carried out and operational efficiencies ascertained. Thus even the identification of the problem would involve a coordinated effort of technical experts, cost accountants, managerial consultants and the overall guidance of economic trends.

The need for evolving a different type of technology may be imperative because of various problems confronting India. The question of foreign exchange scarcity, regional dispersal of industries, shortages with regard to industrial raw materials and high level of skilled artisans etc. are well known. These constraints require that the identification of the problem should take into consideration the questions involving substitution of imported raw materials, improvement of qualities and standard specialised testing facilities, utilisation of agricultural and industrial wastes and assistance in preparation of technical reports for small industries. These are complex economic problems but unless they are kept in view prior to finding solutions to the problems facing any particular industry, the technological innovations carried out howsoever technologically appropriate they might be, may not be of much consequence in solving the problem in hand. For this purpose, it seems that it would be necessary to bring together the talents or services of engineers, economists and cost accountants. To make a beginning such techno-economic groups may be constituted for a small number of selected industries and these groups could in their search for appropriate technology go into the alternatives of adopting or 'miniaturing' modern technology, improving traditional technologies and/or designing new technology. They would, in this process, have to determine specifications, study comparative costs of different technologies in each industry and also to indicate the types of assistance or facilities required for their production and promotion within the country.

Once the problem has been identified and communicated to various existing Institutes relating to the development of appropriate technology, there would be need to coordinate the work being done by various Institutions Organisations. As it is, there are many research organisations engaged in the task of solving technical problems. Similarly, there are many agencies for documenting the available information on various technical and technological matters. It is possible that in some cases many organisations would be working on the same problem. Left to themselves they might not be in close contact with each other's programme of research as also the results of their investigations. There is, therefore, the need to ensure that there is no duplication of efforts and thereby save precious time and money. The technical feasibility evolved by these research organisations will also have to be tested and the economic feasibility ascertained. Subsequently, the preparation of equipment specification sheets, planned techno-economic profiles, giving details of management, summary of plant and equipment, labour, raw materials and other operating requirements, break down charts and account formats etc. will have to be prepared in detail; location and marketing analysis, workload and proposed trial plant will also have to be prepared before the result of the research is made available for commercial exploitation.

Before the results of the research made by specialised institutions could be made available to the rural industrialists, blue prints will have to be prepared with appropriate specifications for commercial exploitation. In view of the fact that this line of activity will be mainly of promotional type, the need for finding out suitable manufacturers for under-taking different types of machines thus evolved will be considerable. The manufacturers will have to be given the concessional terms and they will have to be brought in close contact with the farmers, rural artisans and small industrialists. All these will be a colossal task. However, without a proper control and coordination of this line of activity, much advantage of the earlier work will peter out. There is, therefore, need for setting up an Institute of Appropriate Technology which may perform the following functions:

(a) to carry out studies relating to economies of scale for certain important industries which are considered suitable for taking up on small scale basis and to prepare feasible schemes;

(b) to coordinate the activities of various organisations relating to the evolution of appropriate technology and making these results available to their users: and

(c) to disseminate the available information regarding the appropriate technology in different industries evolved by different organisations.

### Choice of Industries to be Studied

There being no two opinions about the need for taking positive action for evolving intermediate or appropriate technology for small industries, particularly for bringing about improvement in the technology of our traditional industries, the necessity of establishing a specialised agency has been recognised by all concerned. Whatever it should be a fulfledged Institute or a small cell to start with, is left to the administrative convenience. As it is, it has been decided by the Government to set up, to start with, a small cell mainly to identify the problems, arranging the necessary research with the assistance of the national laboratories and other suitable research centres of the different All-India Boards including the SISIs. etc. Accordingly, proposals for constituting a cell in the Ministry of Industrial Development and also a Documentation Centre in the Small Industry Extension Training Institute at Hyderabad have been included in the programme for 1970-71. The SIET Institute will collect information on Appropriate Technologies from various countries in the World including India and will act as a clearing house for information. The main functions of the proposed cell would be to co-ordinate the activities of the different research laboratories and Institutes in order to evolve appropriate technology for selected small industries. The question of setting up of a fulfledged Institute could be considered after reviewing the activities of the cell over the next 3 or 4 years. As regards the industries to be identified for detailed study, the following broad categories are in view:

(a) Traditional crafts in rural areas like pottery, blacksmithy, carpentry, leather, handicrafts etc.;

(b) Agro-based industries, e.g. food processing industries, textiles, timber-based industries, input industries for agriculture etc.; and

(c) Some modern Small Industries capable of decentralised operations such as simple electronics, plastic moulding etc.

### Methodology and Study

There may, perhaps be, already considerable data available on many of these industries. There is therefore need to concentrate efforts to start with on collection of all the available data and classify the same. It would, however, be necessary to pick up from the above list a few industries for a more detailed economic study dealing with comparative cost advantages of different levels of technology. For any specific industry, it would be necessary to set up 'models' of the existing patterns of production, compute cost structure in each case, ascertain the expenditure of its diseconomies in the existing models, wages-productivity relationships and other considerations. In making such a study, the total economy obtained from the adoption of a higher level of technology will also have to be computed so as to determine whether the total cost is favourable or not. The choice of techniques will, in the ultimate analysis depend on balancing several factors such as productivity per unit of capital and labour, labour employed per unit of capital and wage structure of workers etc. Nor can such a choice be made for all times as conditions may change, they may vary to warrant a different choice. For instance with wage level rise, a labour oriented technology will no longer be economically viable and there is, as such, need for adoption of more automation. A techno-economic study of this type requires a thorough knowledge of the economic conditions in the country and also a close liaison with the technical experts who can formulate alternative models.

After such a study has been completed, and if it is decided that an intermediate level of technology would be appropriate, it would be necessary to choose a suitable technological institution for undertaking the work connected with the devising of a more appropriate technological device. With the wide variety of research institutions in the country, it should not be difficult to persuade a well equipped laboratory to interest itself in the problems. For instance problems dealing with leather could be farmed out to the Central Leather Research Institute, Madras and those dealing with agriculture to the Indian Agricultural Research Institute, Delhi. The Technical institutions will either fabricate the prototypes or these can be made at centres like the PTCs, operated by the NSIC.

After the prototypes have been fabricated they need to be tested under field conditions to determine their effectiveness and acceptability. Such field tests can be conducted in selected Rural Industries Project areas in the country where qualified staff is already available. It may well be that on the basis of the field tests, further modifications may have to be effected in the prototypes which will then be taken back to the laboratory. Once it is completed and it is reasonably certain that the improved model would be more productive, and acceptable, it could be made available for commercial production either in the public or private sector. The help of Panchayati Raj institutions established in the rural areas could also be taken for a wide-spread dissemination of the improved model. It is felt that considering the wide diversity of technical areas in which work will have to be done, no single institution can handle all the technical work involved. What is required is a cooperative effort of a number of organisations and Central Cell suitably located which would be in constant touch with the work of the institutes to whom the actual research programme may be farmed out.

Suitable studies at a later stage will help to determine the problem of acceptability of the improved models in rural areas. The field testing of these models could be done in selected areas where the Rural Industries projects are already located.

The appropriate technology cell by itself would thus function as "a catalyst" in the process feeding problems to the Research Laboratories, testing the prototypes and encouraging the production and adoption of the improved models.

# FINANCIAL ASSISTANCE TO SMALL SCALE INDUSTRIES

## A. CREDIT FACILITIES TO SMALL INDUSTRIES

THE experience of developed and developing countries has shown that they have recognised the important role that small scale industries can play in planned economic development. The merit of developing small scale industries lies in the fact that they have the capacity to produce a large number and variety of goods with relatively low investment, that they offer greater employment opportunities per unit of capital investment as compared to large enterprises and that the scope for organising their growth on a decentralised pattern over a large area results in achieving distinct socio-economic advantages, such as better and fuller utilisation of untapped resources of capital and skill and more equitable distribution of national income. It is appropriate, therefore, that each country should have developed its own strategy for the development of small scale industries and has offered liberal concessions and attractive incentives for their development.

Small scale industries have some common problems in all countries and perhaps, the most basic problem is the lack of adequate capital and credit facilities for sustaining their growth and development.

Credit is an essential input for industry, more so in the case of small scale undustrial units which have a weak capital base. Adequate institutional credit is not available to small enterprises as they are generally considered as bad credit risks by commercial banks and other financial institutions. An overwhelming majority of small scale industries are either proprietary or partnership concerns and therefore, have no access to capital market. As a result, these industries have to turn to sources other than the institutional ones, to borrow money on terms manifestly exorbitant to be able to operate profitably in a competitive market.

Recognising the importance of the small scale industries and their need for adequate credit facilities from institutional sources, the Government of India, on the advice of the Small Scale Industries Board, which is the apex body for framing policies and guidelines for the development of small scale industries in India, have formulated several suitable measures from time to time. As a result, several institutional arrangements have been made for providing financial assistance to small scale industries on terms more liberal than those applicable to large scale industries. A very firm foundation in this regard has been laid during the Second Plan Period (1956-61) with the establishment of the State Financial Corporations by the various State Governments for granting 'term loans' to small scale industries for acquiring fixed assets. The process of institutionalization of credit had advanced further with the State Governments entering into agency agreements with the State Financial Corporations for routing their block loans to small scale industries. The State Bank of India—a

*The concept of 'Credit-worthiness' has no longer its traditional meaning. Today it means prospects of the unit, sound management, efficient techniques of production, entrepreneurial qualities of the proprietor and the like. This means a new type of assessment of credit needs based on a techno-economic evaluation of an enterprise. The SSIDO has readily stepped in to make such assessments of enterprises to enable the State Bank of India and other nationalised banks to extend credit facilities to small scale units. The picture shows technical officers of the SISI, Rajkot studying the capacity of the machines and the skill of the workers.*

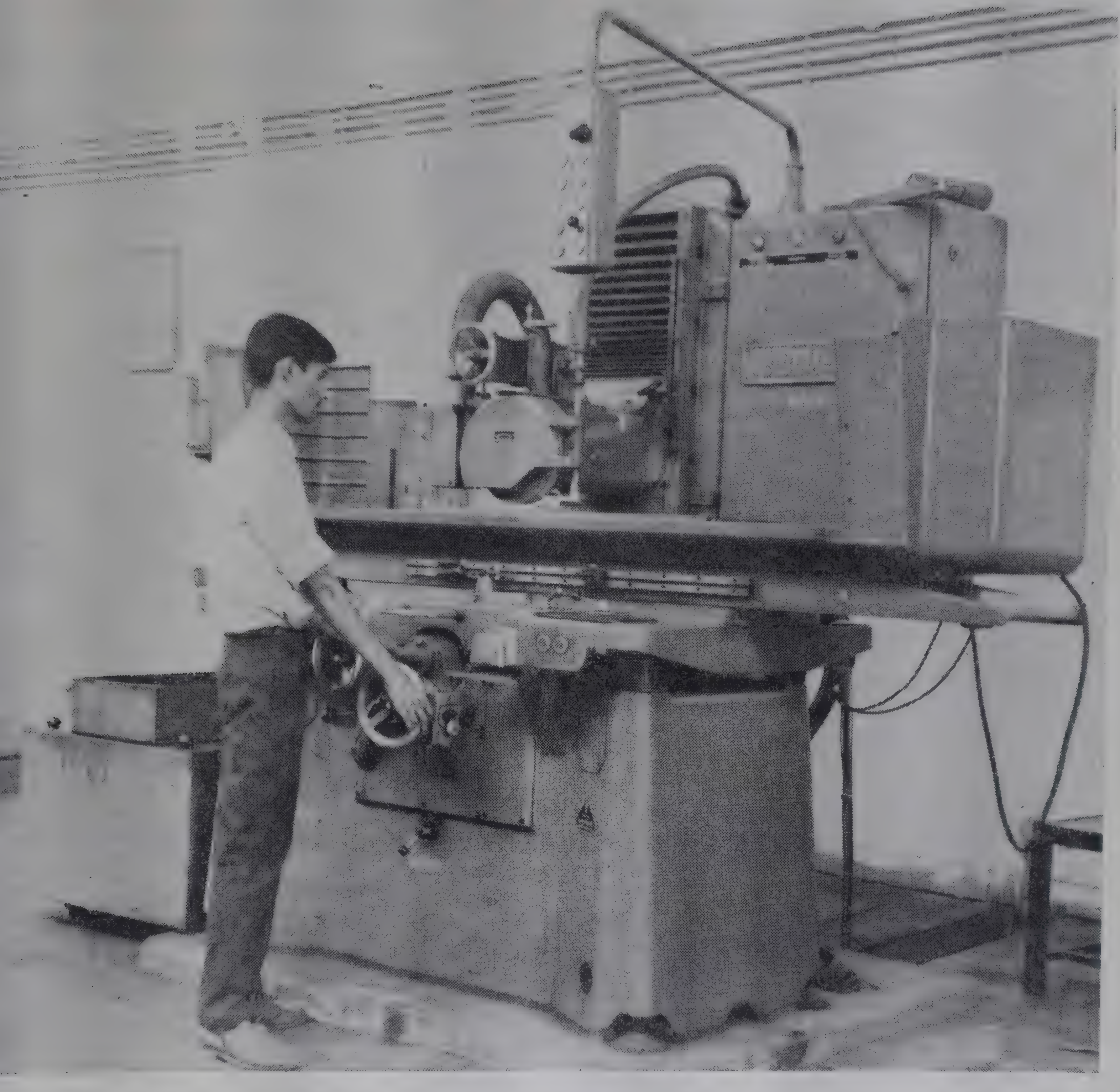
public sector bank—had also drawn up a comprehensive scheme for providing financial assistance on liberal terms to small scale industries. In course of time, other commercial banks in the private sector also followed suit and have been giving financial support to small industries.

These measures adopted for improving the flow of credit to small scale industries have contributed in a large measure to their rapid growth in India during the past decade. These industries which a decade and a half ago were mainly engaged in manufacturing traditional items working with very simple machines and tools have not only multiplied in numbers but have also entered into new and sophisticated fields of manufacture. With the use of modern machines and techniques of production these industries in India are manufacturing a variety of sophisticated items like precision instruments, electronic components, thermoplastics, machine tools, etc. Till the end of December 1969, 178,000 units were reported to have been registered with the State Directorates of Industries. During the year 1965, small scale industries in the organised sector alone accounted for 32.5% of total industrial employment and for 26.5% of the total value of industrial output. If the contribution of the small scale industries belonging to the unorganized sector is also taken into consideration the share of the small scale industries in terms of employment and output would be even higher.

A small scale unit, as any other industrial unit, requires long-term and medium-term credit for acquiring fixed assets for expansion of production by replacing or adding to the existing equipment and it requires short-term credit for stocking of raw materials, finished or semi-finished goods and to meet the day-to-day expenses of running an enterprise. In India, the "term credit" needs of the sector are being met by the State Financial Corporations and the State Governments under the State Aid to Industries Act. The State Bank of India and a few commercial banks also provide medium-term loans, though only to a marginal extent. In an indirect manner, the National Small Industries Corporation (NSIC) Ltd. (a Govt. of India undertaking) and the State Small Industries Development Corporations set up by a few State Governments, also assist the sector in this regard by supplying machines to small enterprises on hire-purchase basis. The short-term credit needs of the sector are mainly being met by the State Bank of India and other commercial banks. To induce the commercial banks to expand their lendings to the small scale sector, the Government of India are operating a Credit Guarantee Scheme under which loans granted to the sector are insured against losses on account of bad debts. A brief review of the functioning and progress of the financial assistance programmes of the various institutions is given below:

### Loans under State Aid to Industries Act/Rules

The guiding principle of State Policy with regard to credit facilities to small scale industries has been that the programmes of financial assistance must be operated in such a manner that in course of time institutional finance becomes a normal process and that, till such time, the State Governments would,



*Apart from the NSIC. & other State Small Industries Corporations which have specific assistance programmes to provide machinery on hire-purchase basis, the banks have also suitable schemes of credit assistance to enable small enterprises to purchase sophisticated machinery like the above surface grinder seen at work in a small scale unit.*

of course, provide adequate credit facilities. In pursuance of this policy, the State Governments have started advancing loans at concessional rates of interest to small scale industries and industrial co-operatives under their State Aid to Industries Act/Rules. The terms and conditions governing grant of loans under these Rules, vary from State to State. In almost all the States, loans upto Rs. 1.000 are advanced against personal bonds, upto Rs. 5,000 against one or two personal sureties and above Rs. 5,000 against security or mortgage upto 75% of the value of security offered including the assets created out of the loans. These loans are repayable over a period of 10 years in easy annual instalments. The rate of interest charged has been kept considerably low through the provision of subsidy to the State Governments by the Central Government. Normally, the amount of a loan to an industrial enterprise is not to exceed Rs. 100,000 and that to an industrial co-operative, Rs. 200,000 without the prior concurrence of the Government of India. Disbursement of loans under the existing provisions, although not very significant as compared to the requirements of 'term credit', had been substantial. During the 10 years period ending March, 1966, a total sum of Rs. 305 million had been sanctioned. An additional sum of Rs. 97.1 million had been advanced by the State Governments during the subsequent 3 years period ending March, 1969.

With a view to institutionalising the flow of credit, the State Governments have entered into agency agreements with the State Financial Corporations for disbursing loans under the State Aid to Industries Act. The proportion of loans so routed through these Corporations had recorded a rise during the Second and Third Plan periods and thereafter. While in the Second Plan period 11.6% of the total amount disbursed under the Act was routed through the SFCs, the total amount disbursed during the Third Plan period through the SFCs. was nearly 25%. During the subsequent three Annual Plan periods this percentage share increased further.

### State Financial Corporations

In view of the wide disparities in the levels of industrial development in the different States and the vastness of the country, it was felt that a single institution set up at the All-India level would not be able to cater to the credit needs of the large scale as well as small scale industries. It was, therefore, felt necessary to supplement the work of the Industrial Finance Corporation of India (a Central Government Institution set up for meeting the credit and capital investment needs of large scale corporate bodies) by setting up a State Financial Corporation in each State for granting 'term finance' and equity capital to medium scale and small scale industries which are mostly either ownership or partnership concerns. These Corporations grant loans which are payable in equal annual instalments spread over 10 to 12 years, the first instalment falling due for payment one or two years after the disbursement of the loan. Their loans carry an interest rate ranging between 7% and 9½%. Generally speaking, advances are made upto 50 to 75 percent of the value of assets offered as security including those created out of the loans. (Loans advanced by the State Financial Corporations should not normally exceed Rs. 2 million in the case of a public limited company or a co-operative society and Rs. 1 million in all other cases).

State Financial Corporations constitute the most important single source of long-term credit to small scale industries. Till the end of December 1969, the State Financial Corporations had sanctioned Rs. 537 million to nearly 6,000 small scale units. The actual disbursement aggregated Rs. 385 million of which Rs. 271 million were reported as outstanding. During the same period, the amount of assistance granted by these Corporations to the medium scale units (having capital investment between Rs. 0.75 million and Rs. 2.5 million) was Rs. 1,215 million sanctioned and Rs. 1,042 million disbursed. Only 30% of the total loans sanctioned by the State Financial Corporations had gone to the small scale industries, the remaining having been claimed by the medium scale industries. The year-wise progress of the assistance rendered by the State Financial Corporations to the small scale industries is indicated below:

**State Financial Corporations**

| As on | No. of loans | Amount sanctioned *(in Rs. million)* | Amount disbursed *(in Rs. million)* |
|---|---|---|---|
| 31.3.1962 | 1505 | 117.8 | 64.4 |
| 31.3.1963 | 1873 | 144.1 | 70.5 |
| 31.3.1964 | 2236 | 176.3 | 121.9 |
| 31.3.1965 | 2667 | 201.8 | 151.2 |
| 31.3.1966 | 3149 | 230.7 | 179.9 |
| 31.3.1967 | 3784 | 286.1 | 216.5 |
| 31.3.1968 | 4606 | 372.4 | 279.3 |
| 31.3.1969 | 5609 | 473.0 | 353.4 |
| 31.3.1970 | 7876 | 731.0 | 461.4 |

### National Small Industries Corporation (NSIC)

The NSIC was set up in 1956 mainly for supplying imported and indigenous machinery on hire-purchase basis. This Corporation negotiates foreign credits for import of machinery. This scheme which was intended to modernise the small scale industries by providing them with modern machines has become quite popular and machines worth Rs. 402 million had been supplied to the small entrepreneurs till the end of March, 1970. Under this scheme, the NSIC recovers the full value of the machinery from the small industrialists in half-yearly instalments spread over a period of seven years, charging 7% interest per annum on instalments due.

**State Bank of India**

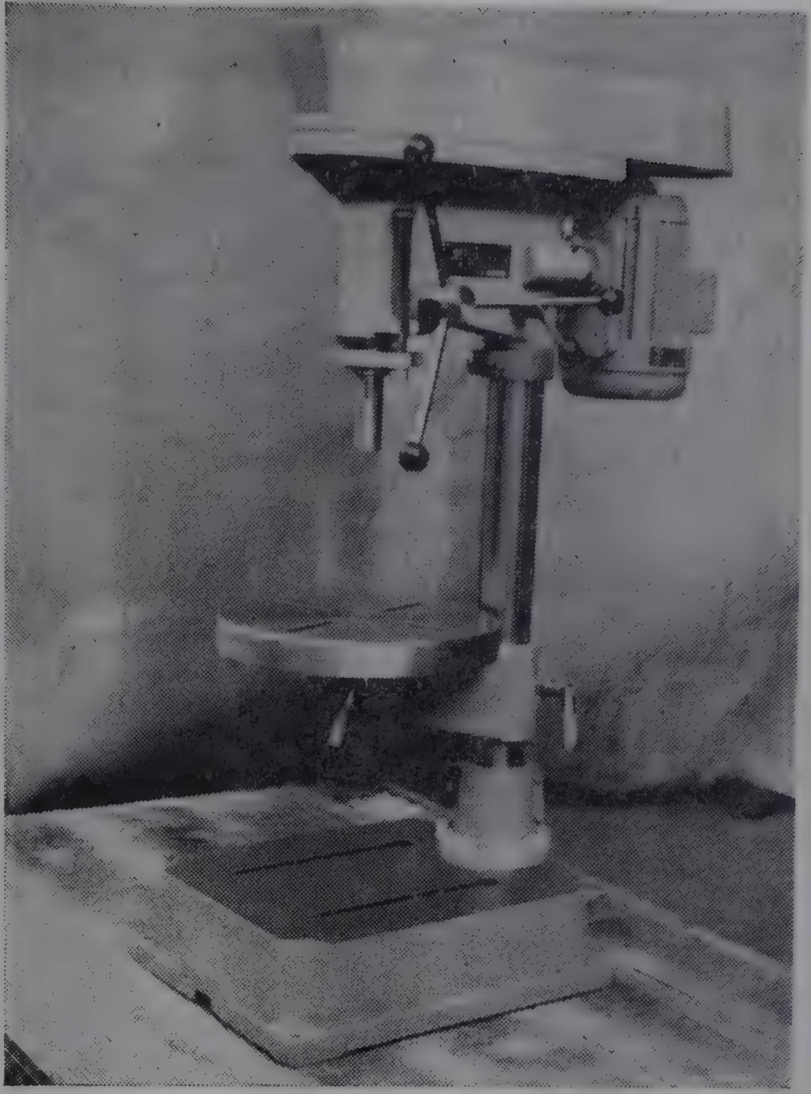
The State Bank of India took the initiative in advancing loans to small scale industries by introducing, in March 1956, a pilot scheme for co-ordinated credit to small enterprises. The scheme was initially confined to nine centres only but was gradually extended to all other branches of the State Bank of India so as to cover the whole country. The liberalised scheme of the State Bank of India is co-ordinated by local co-ordination committees while at the central level this work is being supervised by a Central Co-ordination Committee. Under this scheme, the Bank provides to small scale industries medium-term loans and instalment credit for acquiring fixed assets for purposes of renovation and expansion of their units and short-term credit for meeting their working capital needs. The latter category of credit, however, accounts for the bulk of the amounts sanctioned by the Bank to the small scale sector. With a modest beginning in 1956, the State Bank of India's scheme of granting loans to small scale industries on liberal terms had made substantial progress. Till the end of March, 1970, the State Bank of India and its subsidiaries had sanctioned Rs. 2769.1 million. The yearwise progress of advances by the State Bank of India and its subsidiaries may be seen from the following table:

*Advances to Small Scale Industries*

(*in Rs. million*)

| As on | No. of units | Amount sanctioned | Amount outstanding |
|---|---|---|---|
| 31.3.1962 | 3425 | 140.8 | 65.2 |
| 31.3.1963 | 4020 | 189.9 | 93.0 |
| 31.3.1964 | 5279 | 271.3 | 128.3 |
| 31.3.1965 | 8085 | 453.7 | 220.2 |
| 31.3.1966 | 10,160 | 566.0 | 310.4 |
| 31.3.1967 | 15,578 | 928.3 | 489.5 |
| 31.3.1968 | 18,801 | 1190.5 | 636.5 |
| 31.3.1969 | 23,614 | 1785.6 | 921.3 |
| 31.3.1970 | 36,935 | 2769.1 | 1522.3 |

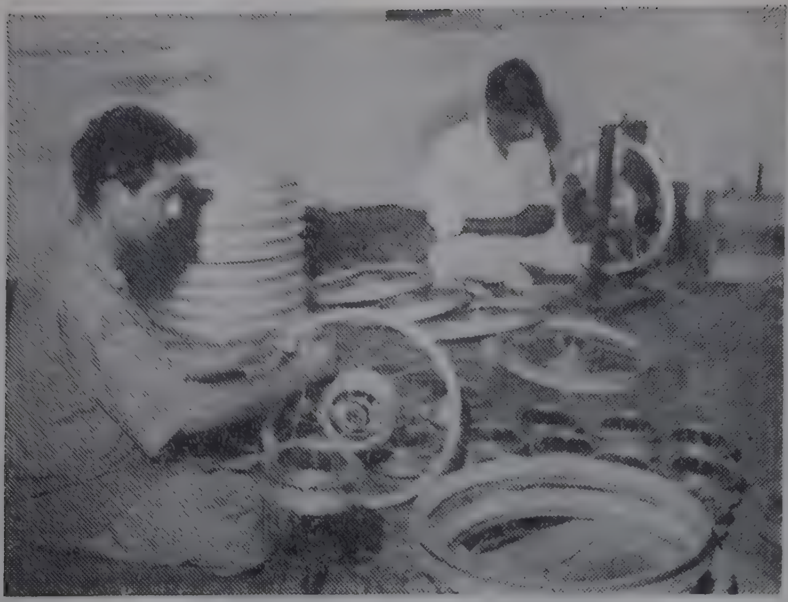
The short-term credit provided by the State Bank of India to the small scale sector is largely on lock-and-key basis and carries an interest which varies with the type of accommodation from 7¾%to 8¾%. In very deserving cases, the Bank also sanctions clean type of advances. Instalment credit granted by the Bank is for the purchase of machinery/equipment, either new or old, against hypothecation of equipment proposed to be purchased out of the proceeds of the loan. The loanee is required to make a down payment of 20% to 33⅓% of the cost of equipment to be purchased while the rest is financed out of the loan. These loans which carry an interest rate of 9% per annum are required to be repaid over a priod not exceeding five years in half-yearly or yearly instalments. Medium-term loans are granted for a period of 7 to 10 years at an interest of 8½% and are repayable in half-yearly or yearly instalments. The small scale units which have benefited under the liberalized scheme of the State Bank of India, numbered 36,935 as at the end of March 1970.



*A small enterprise at Coimbatore, Tamil Nadu has taken up the manufacture of electric motors (designed & developed by the SISI, Madras) for drilling machines. Adequate and timely financial aid enabled the entrepreneur to translate his plan into a reality.*

**Commercial Banks**

The commercial banks which constitute the most important single source of short-term credit to industry had been rather reluctant in the past to



*A small beginning but with a great future. This is a small unit manufacturing motor-cycle wheels. Such units require more machinery, material and men. All these mean in short "more finance."*

extend credit facilities to small scale industries. As at the end of March 1967, out of a total of Rs. 20,675 million disbursed to all industries by commercial banks, the amount of loans granted to small scale industries aggregated only to Rs. 2,109 million which had accounted for a little over 10% of the total bank credit to all industries. As compared to the sector's contribution to the total industrial output which was roughly 35% in 1965, the proportion of bank credit available to the sector was quite low. With a view to ensuring adequate flow of bank credit to the small scale industries sector, Government of India had introduced a scheme of social control under which the banks were required to set aside a pre-determined proportion of the net accretion to their deposits for granting loans to the small scale sector. The operation of social control over banks had the desired effect and the advances from commercial banks to the small scale industries had increased very substantially. The flow of bank credit to the vital sectors of the economy like Small Scale Industries and Agriculture was augmented by the nationalisation of 14 major commercial banks in July, 1969 as would be seen from the table given below:

*Bank Credit to Small Scale Industries & Agriculture*
*(in Rs. Million)*

| As on | Amount Outstanding |
|---|---|
| 31.3.1965 | 738 |
| 31.3.1966 | 908 |
| 31.3.1967 | 1785 |
| 31.3.1968 | 2109 |
| 31.3.1969 | 2618 |
| 31.3.1970 | 3739 |

Consequent upon nationalization the commercial banks have also adopted various promotional and administrative measures to augment the flow of bank credit to small scale industries sector. A notable step in this direction is the introduction of the 'Lead Bank Scheme' under which each district in the country has been allotted to one of the major Indian scheduled commercial banks for intensive development of banking facilities. To provide assistance to small scale units scattered all over the country, intensive efforts are being made to expand the net-work of branches of the commercial banks.

With a view to assisting the unemployed engineers and other qualified persons, a comprehensive scheme for granting financial assistance to qualified entrepreneurs has been drawn and is being operated by the commercial banks including the State Bank of India. A notable provision in the scheme is that the entire cost of the project will be financed by the financing institutions and the entrepreneur is not required to raise any resource as a contribution from his side. The terms and conditions which vary from bank to bank are quite liberal and loans are available to all qualified entrepreneurs having worthwhile schemes. Although these schemes have been taken up by the banks very recently, considerable progress has been made in this regard. The State Bank of India and its subsidiaries had sanctioned more than Rs. 33 million to 297 entrepreneurs till the end of March, 1970.

### Credit Guarantee Scheme

The small scale enterprises which have a weak capital base often find it difficult to offer acceptable securities to commercial banks and other financial institutions granting loans to them. Also, because of their unfavourable debt-equity ratio these units are considered bad credit risks by the lending institutions. As a result, the flow of credit to the small scale industries is very much restricted. With a view to removing this impediment in the way of free flow of institutional finance to small scale sector, the Government of India introduced in 1960 a Credit Guarantee Scheme. The operation of the scheme is guided by the Reserve Bank of India which is the authority to regulate the banking business in the country. Under the scheme, the Guarantee Organization stands surety on behalf of the small enterprises and guarantees loans granted to them upto a certain limit against default or bad debt. The underlying idea behind the introduction of the scheme is that banks and other lending institutions will have a sense of security while granting

*The nationalised banks are operating special schemes of assistance for technically qualified entrepreneurs and unemployed engineers. However, the first hurdle is getting the right scheme to start with. The picture shows the information service rendered at SISI, Ludhiana where technical graduates are offered information & guidance to select an appropriate line of manufacture.*

loans to the sector, and, thereby, will be in a position to enlarge considerably their lending to the sector. Beginning with 22 districts, the scheme now covers the entire country and a very large number of financial institutions are taking advantage of the same and are offering guarantee cover for all their business with the small scale industries.

The operation of the scheme has contributed to the flow of institutional credit to the small scale sector in a larger measure and also to the liberalisation of the terms and conditions on which credit facilities are made available by the lending institutions. The Reserve Bank of India reviews from time to time the operation of the scheme and makes necesssary changes to ensure that there is no impediment to the smooth flow of credit to small enterprises.

The Credit Guarantee Scheme has been modified w.e.f. 1st February, 1970. Whereas earlier the credit institutions seeking guarantee cover were required to obtain the prior approval of the guarantee organisation by making an application to them, under the modified scheme, all advances made by the credit institutions to eligible small scale industries will be deemed as covered under the Credit Guarantee Scheme subject to the approved credit institution entering into an agreement with the Guarantee Organization. In other words, the guarantee cover has been made automatic, thereby reducing a possible delay on account of scrutiny by the Guarantee Organization. The guarantee cover, which was earlier Rs. 0. 25 million per limit, has been raised to Rs. 0. 75 million per limit in respect of working capital advanced and Rs. 1

*Today the financial arrangements for small industry development are available not only for the purchase of machines, raw materials etc, but also for the construction of complete industrial estates. Picture shows an aerial view of the industrial estate constructed by Baroda Industrial Development Corporation Ltd., Baroda.*

million in respect of long term advances, subject to a maximum of 75% of the amount defaulted or the amount guaranteed whichever is lower with reference to the amount advanced to a particular unit. The guarantee fee charged by the Guarantee Organisation, fixed at 1/10th of 1%, is payable quarterly instead of annually as was the case prior to February, 1970. The scope of the scheme has also been enlarged so as to cover servicing and other types of units also. The utility of the scheme can be gauged from the progress achieved so far. Till the end of December, 1969, 1,52,240 applications for loans amounting to Rs. 7730.3 million were received against which 1,38,265 certificates of guarantee for a total sum of Rs. 6480 million were issued.

It will be appreciated from the foregoing account that various institutions set up to meet the credit needs of the small scale sector have achieved considerable progress and they have reoriented their policies to meet the changing needs of small enterprises.

## B. CONCEPT OF INTEGRATED BUSINESS APPRAISAL FOR BANKERS' ADVANCES TO SMALL INDUSTRY

When thinking of project or business appraisal, appraising personnel are generally liable to be confused as implied in the "fable of an elephant and six blind men" imaging the size and shape of an elephant from its foot, trunk or tail, i.e., not able to understand a business appraisal as an integrated whole, but as something having everything to do with their own specialisation. An appraisal specialist is apt to have an illusion that his speciality is the most important one for the function of appraisal. For instance, a technologist may imagine that the only thing to be appraised in a manufacturing unit is the technological facilities only—realising very little that for a plant to have the technological facilities is just no different from a person to have two legs, two hands, two eyes, etc. While having all these limbs in the required number, a person could be sick and even on the death bed. In other words, a unit may have first class production facilities and yet may be fast on its way to bankruptcy. Similarly, a human relations/marketing/financial/industrial engineering specialist may suffer from the same narrow concept of appraisal.

When a physician wishes to judge rightly the health of a person and the future condition of his health, he diagnoses him as a whole from all possible angles namely, his heart, liver, lungs, throat, reflexes, etc. (including his working, living, eating and other habits and those of his ancestors). A similar diagnostic approach is called for in the case of project appraisal. It is often referred to as 'Integrated

*The commercial banks have come out in a big way to help the small industrialists. They have set up separate small industry wings with experienced and qualified technical personnel to deal with loan applications from small enterpises. Picture shows Shri Virendra Patil, Chief Minister, Government of Mysore speaking at an Exhibition organised by the Canara Bank Ltd., at Bangalore.*

Appraisal' or 'Productivity Appraisal' or 'Total Appraisal', etc. The whole purpose of this appraisal is after all to find out how healthy is a unit at a particular time and what is likely to be its future. In other words, we wish to find out how efficiently and competitively the enterprises produce, sell and realise a profit 'today' and 'tomorrow' and for appraising this we must appraise all the functions involved in producing, selling and realising profits.

Here is a check-list for this integrated appraisal, based on the appraisal procedure followed by Japanese Banks for advances to industry. No such list can, by any means, be all comprehensive. Nevertheless treating it as indicative, it could be useful.

Bankers often express as being held up for want of suitable technologists in the lines concerned while appraising loan applications from industrial applicants. It would be seen from this article that the skill needed for this project appraisal is not that of production technology (bankers are so much apprehensive of) but are those of management and productivity diagnosis or in simpler words, of Industrial Engineering and Management; and bulk of the job of pre-loan project appraisal could be done by the right type of bank executives themselves, after receiving suitable training in the subject.

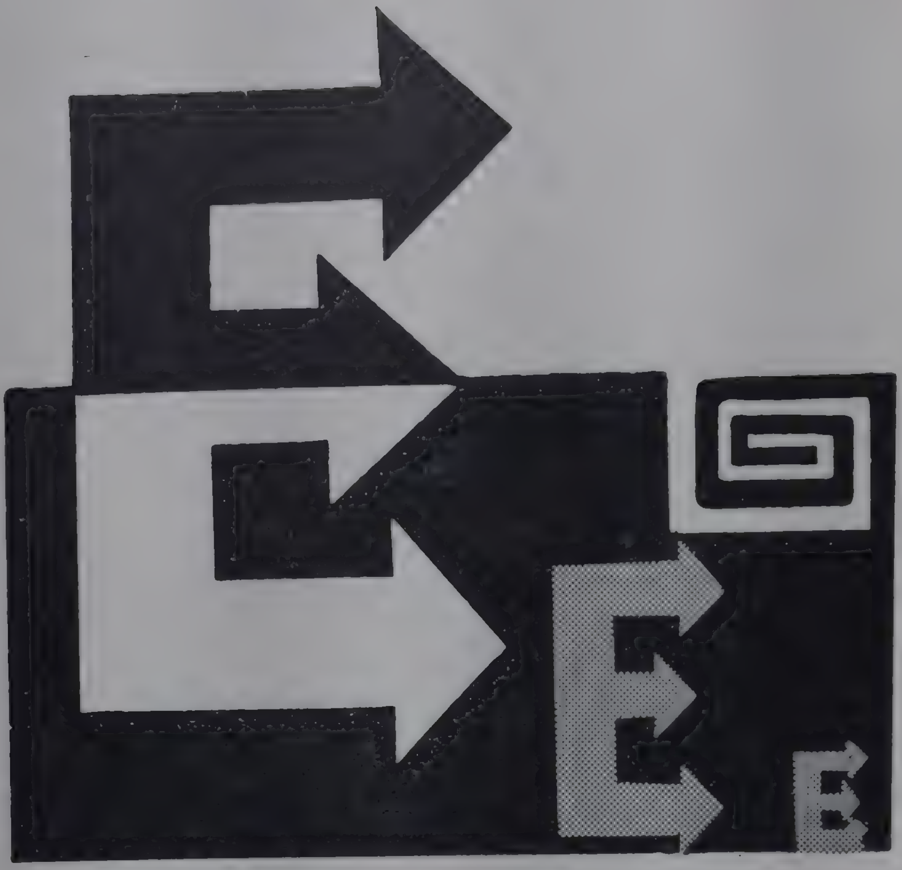
| BROAD AREAS | ELEMENT FEATURES | RATING | | | |
|---|---|---|---|---|---|
| | | Excellent | Good | Fair | Poor |
| | | 100 | 75 | 50 | 25 |
| *General Management* | 1. Basic qualifications ability of top/middle management | | | | |
| | 2. Top/Middle management how far efficiency-oriented | | | | |
| | 3. Experience of the top management | | | | |
| | 4. Levels of salaries of top/middle management | | | | |
| | 5. Basic policy for the enterprise, how far clearly defined | | | | |
| | 6. Enterprise organisation, appropriate | | | | |
| | 7. Business activities based on budgeting and controlling | | | | |
| | 8. Driving power in the plant available for future development | | | | |
| *Financial Management* | 9. Own stake in business | | | | |
| | 10. Break-even point in relation to production, favourable | | | | |
| | 11. Stability, as revealed by ratio analysis | | | | |
| | 12. Profitability as revealed by ratio analysis | | | | |
| | 13. Growth potential as revealed by ratio analysis | | | | |
| | 14. Cost accounting system in operation | | | | |
| | 15. Accounting system appropriate and kept up-to-date | | | | |

| BROAD AREAS | ELEMENT FEATURES | RATING | | | |
|---|---|---|---|---|---|
| | | Excellent 100 | Good 75 | Fair 50 | Poor 25 |
| *Production Engineering, Planning & Control* | 16. Technology, how far appropriate | | | | |
| | 17. Production equipment, how far adaptable | | | | |
| | 18. Production Planning, scheduling, despatching & follow-up | | | | |
| | 19. Condition of machines and equipment in general | | | | |
| | 20. Maintenance procedures for machinery and equipment | | | | |
| | 21. How far, production, economic-batch-quantity oriented | | | | |
| | 22. Quality of products in general | | | | |
| *Inventory Management* | 23. Desired purchase & store keeping system adopted | | | | |
| | 24. How far desired purchase and store keeping system adhered to | | | | |
| | 25. Levels of safety stock, EOQ & re-order, appropriate | | | | |
| | 26. Condition of inventories | | | | |
| | 27. Store keeping costs, low (favourable) | | | | |
| | 28. Suitable arrangements for saving inventories from spoilage | | | | |
| *Methods* | 29. Plant and overall lay-out & materials handling | | | | |
| | 30. Machine utilisation co-efficient, in general | | | | |
| | 31. Man utilisation co-efficient in general | | | | |
| | 32. Material utilisation in terms of scrap | | | | |
| | 33. Attention to safety | | | | |
| | 34. Quality consciousness & quality control facility | | | | |
| *Sales* | 35. Sales policies and procedures, clearly defined | | | | |
| | 36. Existing demand for their products in general | | | | |
| | 37. Projected demand outlook for products (long-term) | | | | |
| | 38. Projected demand outlook for the products (short-term) | | | | |
| | 39. Sales planning done | | | | |
| | 40. Channels of distribution appropriate | | | | |
| | 41. Customers' opinion (sample survey) | | | | |
| | 42. Sales promotion measures, adequate | | | | |
| | 43. Advertising expenses as % of sales | | | | |
| | 44. Rate of growth of off-take | | | | |
| | 45. Rate of growth of market share | | | | |
| *Personnel* | 46. Hiring system | | | | |
| | 47. Working conditions in the plant & in the office | | | | |
| | 48. Is personnel qualified for the job | | | | |
| | 49. Is labour-turn-over ratio favourable | | | | |
| | 50. How is labour attendance (opposite of absenteeism) | | | | |
| | 51. Are wages adequate | | | | |
| | 52. How far is incentive system for payment of wages used | | | | |
| | 53. Labour-management relations | | | | |
| | 54. How is the general morale of workers | | | | |
| *General* | 55. General consciousness among employees regarding productivity | | | | |
| | 56. Packing & packaging consciousness | | | | |
| | 57. General discipline in shop and practice | | | | |
| | 58. Plans for training of management and operating personnel | | | | |
| | 59. Managerial & operating personnel got trained in recent years | | | | |
| | 60. Industrial management consultants consulted in recent years | | | | |
| | 61. How is the long-range planning | | | | |
| | 62. Do top management get enough time for creative thinking | | | | |
| | 63. General house-keeping in shop and office | | | | |
| | 64. Are space and building properly utilised & maintained | | | | |
| | 65. Are space and building adequate | | | | |
| | 66. Is there enough space for near future expansion | | | | |
| | 67. Accident ratio, not too high | | | | |
| | 68. Premises, equipment, material etc. covered by insurance | | | | |

| BROAD AREA | AVERAGE RATING SCORE | | | |
|---|---|---|---|---|
| | Excellent | Good | Fair | Poor |
| | 100 | 75 | 50 | 25 |
| General Management | | | | |
| Financial Management | | | | |
| Production Engineering, Planning & Control | | | | |
| Inventory Management | | | | |
| Methods | | | | |
| Sales | | | | |
| Personnel | | | | |
| General | | | | |
| Total | | | | |

Over-all average rating:— $\frac{\text{Grand Total Score}}{8}$

..........(Excellent/good/fair/poor)



# ECONOMIC SERVICES

## A. ECONOMIC SERVICES IN THE SMALL INDUSTRY PROGRAMME

### The Programme & Perspective

THE small industry programme in India today is the result of experiences gained through experiments in and evaluation of the Small Industry Movement during the past decade and a half. Based on the recommendations of the Ford Foundation Team a separate Organisation for the development of small scale industries was set up in 1954. Prior to that, small scale industries were not considered to be distinct from village and rural industries and were therefore, covered under a common programme of development of village and rural industries. The ubiquitous growth of small scale industries, distinguished by the use of modern machinery and equipment, adoption of sophisticated techniques of production and the manufacture of a variety of consumer as well as capital goods, has resulted in a notable contribution by this sector to the industrial economy of our country both in terms of employment and industrial output. Thus, at present a small scale industrial unit is generally recognised as an organised factory unit with technical bias in production and having tremendous possibilities of growth. It is no longer associated with a static form of production to sustain the village artisan or to cater to the village market. The S.S.I. sector has played an active role since the Second Five Year Plan and has effectively met the growing demand for a large number of consumer goods. Even though the scale of operation is small, a small scale unit has much in common with a large scale unit in the techniques of production and methods of marketing.

Dimensions of development strategy were so designed as to nurture even village and rural units into small organised factories. To some extent, many a small organised factory today has its roots in some pioneers who might have started a household unit long ago. The phenomenal growth of small factoreis which constitutes the organised small industry sector is the modern porjection of the vast but thin layer of village and household industries spread everywhere.

From a very modest beginning in 1954, the number of small scale units registered with State Directorates of Industries grew to 60,000 by 1964. Within another five years it went upto 146,000 (1969). A large number of small enterprises have been set up by entrepreneurs who have come from all walks of life, from business and industry, services and crafts, agriculture and from vocations which are not even remotely connected with industry. How did this remarkable development take place? What services and facilities in the programme for small industry development have contributed to this astounding growth? The development of this vast and potential sector of industry in a sub-continent like India, called for stupendous efforts. The details of these will be dicussed in the ensuing chapters.

The three main challenges which the Development Programme for small industries in India had to face were on the technical, managerial and economic fronts. The elements of development programmes were so designed as to meet these basic challenges and to provide assistance and guidance according to the needs of the individual small enterprises. Various types of economic services helped to unfold and give critical insights into the problems, facilitated analysis and interpretation of data, and the formulation of suitable guidelines for the implementation of the programme. This service among other services is almost the 'first step in the right direction', since without it the very problem would have remained unidentified and unsolved.

### Job Assignments of an Economic Service

The basis for the formulation of development programme for small scale industries is discussed below:

First and foremost is the necessity for data. Data may pertain to the number of existing units, capital and labour employed, installed capacity and the production of goods by these units, and a variety of other economic data on raw materials, their adequacy, sources of supply, prices, means of transport and costs thereof, etc. which are necessary to know all the aspects of the problem on hand. Without these data no action could be taken. These data form the bed-rock on which the whole edifice of a development programme is built.

The data have to be constantly collected, indexed and processed so as to highlight the various aspects of growth in the small industry sector.

Even in a country like India which has recorded substantial progress in the development of small industries, the dearth of data is still a severe bottleneck. This has frustrated many, an otherwise enlightened decision to foster the growth of small industries.

SSIDO is the only Institution collecting systematically and regularly a wealth of useful statistics about small scale industries in India through a series of surveys. The details of these will be dealt with subsequently.

(i) Problem-oriented surveys are necessary for streamlining the programme of assistance. These surveys are so designed as to gather all relevant data on the nature and extent of the problem faced by individual units in an industry and also on other environmental factors which give an idea of the magnitude of the problem. These surveys are intended to study a particular problem or subject only. In India, these surveys conform to a set pattern with some allowance being made for marginal changes in the scope and analysis. They pertain to three aspects of development namely, area, industry and market. There are regular as well as ad-hoc surveys.

(ii) There is need for a constant flow of data which reflect the trends in an industry and its growth potential. They are processed and inferences are drawn.

(iii) It is also necessary to undertake, at times, research of an unbiased nature on some subjects of topical interest. Investigation is done in depth and valid conclusions are drawn which focus the attention on particular aspects of development. Some of them may not be directly connected with programmes and may not even feed the extension work. Nevertheless, they are quite useful. Such research studies on special topics are called 'Topic Studies'.

(iv) The need for dissemination of uptodate information in order to help an entrepreneur in taking an appropriate investment decision can hardly be over-emphasised. Such information is helpful to a prospective entrepreneur who wants to start a new industry, to an existing small industrialist who wants to expand or diversify his production, to planners and economists, Government Departments and other promotional agencies including Small Industry Associations who are concerned with the development of small industries. The details of this extension function will be discussed subsequently.

### Clientele

The clientele making use of an economic information service may vary from country to country according to the degree of development reached. Even so, it is possible to identify a common set of clients. There is bound to be some differences among the clientele and the nature of information required by them as also their demand for particular types of services may also differ. We could identify the clients as under:

- i. Govt. Departments which are concerned with small industry development;
- ii. Corporations and Agencies in the public and the private sectors concerned with small industry assistance;
- iii. Individual manufactures who require the various types of services either to expand or to diversify production;
- iv. Prospective entrepreneurs who want to start small industry ventures;
- v. Planners and economists who require information on small industries;
- vi. Industrial, Commercial and other Associations and Institutions;
- vii. College and Educational Institutions which want to shape the future career of the students by giving them adequate information on the scope for self-employment in small industries.

**Economic Services offered by the Small Industry Programme in India—A study of Growth.**

The various elements of a programme cannot be the same for all times and for all areas. The small industry pattern and growth aspects considerably influence the manner in which various types of services are offered.

We shall examine here the experience of India in respect of her economic services. We shall also examine how the various services were patterned and moulded according to the changing needs of many a small industry.

We shall classify the services into two broad categories viz., (I) Surveys and Studies and (II) Extension services. These two categories are not water-tight compartments. But, by and large, the former one pertains to collection of data, interpretation, and preparation of reports which form the basis for extension work. These have research bias in preparation. The extension services directly offer a particular guidance or assistance to a type or types of clients.

*I. Surveys & Studies*

(a) INDUSTRY SURVEYS
- (1) Industry Outlook Reports
- (2) Industry Prospect Sheets

(b) AREA DEVELOPMENT SURVEYS
- (1) Area Industrial Potential Surveys
- (2) Surveys of Growth Centres
- (3) Surveys of Industrial Estates
- (4) Potentiality Surveys undertaken prior to the conduct of Intensive Campaigns
- (5) Surveys conducted for foreign countries

(c) AD HOC STUDIES
- (1) Enquiries conducted for supplying Economic Information
- (2) Studies relating to the availability of raw materials, scope for new industrial possibilities, etc.

(d) SPECIAL SURVEYS
- (1) Surveys for Bank Credit (State Bank of India & other nationalised Banks).
- (2) Surveys for development of ancillary industries
- (3) Surveys for community development projects and Rural Industries Project areas.

(e) EVALUATION STUDIES

(f) TOPIC STUDIES

(a) INDUSTRY SURVEYS

*Industry Outlook Reports*: A comprehensive knowledge of the existing industries and detailing ways and means to develop these industries on the one hand and to initiate measures for the establishment of new small enterprises on the other, are the two major objectives of conducting Industry Surveys.

The industrial structure of India at the dawn of Independence was far from satisfactory; the few industries which were existing then had to face serious shortage of skills resources and raw materials on the one hand, and on the other, they were hardly able to cope with the competition from imports. Thus, they were almost on the verge of extinction. In this context, the immediate and important task was to give protection to and foster the growth of existing industries. Moreover, protection of existing industries would have a demonstrative effect and also encourage entrepreneurs to set up new small enterprises.

Hence, Industry Outlook Reports were initiated for providing a blue print of the industry, indicating its problems, growth capacities, areas requiring development and suggestions for growth. These surveys were intended to analyse the existing structure of the industry, inputs and outputs, comparative strength of the co-efficients and to recommend appropriate solutions to the problems. The Reports also attempted to give a rating to the industry into any of the three categories viz., "excellent prospects", "moderately good" and "poor prospects".

Those survey reports were helpful to Planners and Administrators, Industry Associations and existing Entrepreneurs and Agencies engaged in the promotion of small industries. The findings of the survey were extremely useful in formulation of programmes relating to provision of facilities to manufacturers, initiating requisite measures to meet critical deficiencies and taking such decisions as would be conducive to the growth of the industry.

*Industry Prospect Sheets:* The Industry Outlook Reports, though comprehensive and useful, took considerable time to prepare and moreover these were confined to existing industries. In the situation then existing, the demand for a large number of items grew rapidly as a result of increased purchasing power and progressive restriction on imports of such goods, as could be manufactured indigenously. Thus an urgent need arose to apprise the entrepreneurial class of the tremendous scope for new small enterprises to meet the growing demand for a number of items. Provision of such information was possible only by quick study of such important factors as the current and potential demand for a particular item, existing production capacity, nature of raw materials and machinery used, the approximate capital investment required, the current sources of supply and their adequacy, the scope for new small enterprises to take up the manufacture of the product in question etc. The results of such quick studies were brought out in the form of "Industry Prospect Sheets" to enlighten the entrepreneurs, in the shortest possible time, about the scope for new small enterprises. The Information Counters in the SISIs wanted these fact sheets for guiding existing as well as prospective entrepreneurs. These surveys were also instrumental in motivating and developing entrepreneurship. These provided an indispensable guide to such of those persons, Agencies and Government Department as were directly concerned with small industry development.

In deciding the items for the above type of industry surveys a number of factors are taken into consideration. Some of them are (1) the need for preparing I.P. sheets on particular items emanating from Small Industries Service Institutes (2) Importance of the item from the point of view of utilisation of available local resources (3) employment potential of the industry (4) feasibility of production in the small scale sector and (5) availability of know-how for manufacturing.

The SSIDO had prepared 150 Industry Outlook Reports and 291 Industry Prospects Sheets during the period between 1957 and 1970. The products covered under the Industry Prospect Sheets are of diverse nature such as automobile batteries, auto-leaf springs, surgical instruments, machine tools, processed fruits and vegetables, electric motors, electric appliances, ferrous and non-ferrous castings, dipped rubber goods, bicycle and bicycle parts, diesel-oil engines, radio and radio parts, industrial chemicals, hardware items, hand tools, industrial fasteners, centrifugal pumps, sports goods etc. to mention only a few. A complete list of the items covered is given in the end.

These survey reports are frequently required by the developmental authorities. The impact of these surveys could be grouped under the following heads:

(1) These surveys brought out the difficulties pertaining to raw material availability and the injustice suffered by the small scale sector vis-a-vis the large scale sector of industry. As a result of the remedial action taken, the situation has considerably improved.

(2) A commendable result which these surveys have brought about relates to the change in credit policies and outlook of the financing agencies. The credit worthiness of the small industry sector increased on account of the availability of correct information on the current status of a given industry and its prospects for growth.

(3) These surveys have projected a commendable image of the small industry highlighting its vital role and justifiable place in the national economy and made out a case for greater attention to this potential sector of the economy. As a result, many measures were initiated with a view to strengthen the small industry sector, including reservation of items exclusively for production in the small scale sector.

(4) It was possible to initiate new measures of assistance by changing and reshaping existing programmes as a result of the findings of these surveys.

### (b) AREA DEVELOPMENT SURVEYS

*Area Industrial Potential Surveys:* Area development surveys coordinated by the SSIDO analyse the resources and skills available in an area in terms of men

*Information has to flow in before it can flow out. The industrialists seen above furnish information at Extension Centre, Jullundur and obtain guidance on some common problem.*

and material, study the existing economic structure of the area with special reference to industries and industry overheads and indicate the scope for setting up new industries and expansion of existing ones. The coverage of the surveys includes also an analysis of the typical problems faced in the area and suggestions about the ways and means to facilitate rapid industrial growth of the area.

These studies are meant specifically to develop an area and hence various programmes suggested will be generally interlinked and integrated and therefore, the implementation of these programmes has to be properly coordinated. The area for study should be a viable economic unit, say a district and often some areas around a particular district are also included in the coverage because of the integrated nature of the area in terms of markets, skills, resources and other facilities.

The surveys are conducted at the request of the State Governments and other agencies concerned with small industry development. The survey is of a techno-economic nature and hence broadly covers technical, managment and economic strategies of development.

During the inital years of the small scale industry programme in India, the survey was of a socio-economic nature. Many social aspects, of entrepreneurship, household income, level of literacy, standards of living and a variety of general economic factors, not very much connected with industry, were also studied. However, in course of time, the technique of the survey was streamlined on account of the growth and special demands of small industry sector. During the period 1957-68, 173 districts/areas in various parts of india were surveyed. The various industries based on local raw materials which were considered prospective for the areas have been given in section X of this souvenir.

*Survey of Growth Centres:* In the beginning stages adequate care was not taken to check the unhealthy concentration of industries in urban areas where markets were assured and all requisite facilities for the development of industries were readily available. Interior areas remained industrially backward despite the availability of entrepreneurial skill and exploitable resources. In course of time, it was found necessary to provide facilities for development in such of those places where they will be readily availed of by the entrepreneurs or in otherwords places having growth possibilities.

Surveys were undertaken to identify these growth centres and suggest a development plan for the area.

*Surveys of Industrial Estates:* A major programme of development intended to bring about the dispersal of industries is the industrial Estate programme. Worksheds provided with electric power, water/steam etc; and facilities for obtaining raw materials were constructed at suitable locations, to ensure an orderly development of industries. Industrial Estates are also set up to harness local resources and skills and to attract and encourage entrepreneurship. The surveys conducted in this regard are of various types namely (1) to determine a suitable location for a new industrial estate (2) to assess the quality of entrepreneurship, (3) to find out problems of unsuccessful industrial estates and offer feasible solutions and (4) to study the industrial estate programme itself and offer guidelines.

*Potentiality Surveys Undertaken prior to the Intensive Campaigns:* Intensive Development campaigns are conducted in selected areas to attract, guide and encourage entrepreneurs in setting up small enterprises having scope for development by giving assistance and facilities right at their door steps. A survey is conducted prior to the conduct of the campaign with a view to find out the resources of the area and the potentialities for industrial development. The survey locates prospective entrepreneurs and candidate industries and prepares the ground for conducting the campaign successfully. The campaign brings together all the agencies to help entrepreneurs in taking appropriate investment decisions on the spot. During the year 1968-69 SSIDO conducted 13 such surveys which were followed up by intensive campaigns in the selected areas.

*Surveys Conducted for Foreign Countries:* India, having developed adequate expertise in the promotion of small scale enterprises, is in a position to offer guidance to countries who would like to gain from her experience. Recently, teams of economists and technologists visited Egypt, Iran, Afghanistan, Fiji Islands, Nigeria, Togo and Dahomey and have submitted suitable programmes for development of small industries in these countries.

An account of these types of surveys would be incomplete without mentioning a very important economic objective of developmental strategy in India, namely, dispersal of industries which the surveys have helped to fulfil.

The growth of Small Industry Sector, in the semi-urban and rural areas has been encouraging as a result of these surveys.

### (c) AD-HOC STUDIES

The surveys mentioned in the foregoing sections are comprehensive in nature and follow a set pattern. But there are exigencies at times which call for immediate action and quick appraisal. To meet these requirements quick surveys were designed on an *ad hoc* basis.

These Ad-hoc Surveys were initially intended to feed the information desks of the SSIDO. A party who requires information on points like scope for the manufacture of a particular item, availability of raw material, market outlets etc. on a countrywide basis, is furnished the same on the basis of these Ad-hoc Surveys. Information collected for this purpose on an all India basis would be brief and to the point.

Another type of Ad-hoc Survey is conducted for studying a particular aspect of Small Industry Programme in an area. Unlike the previous type of surveys these are not taken up at the instance of individual parties or departments but depend upon the exigencies of circumstances. These are conducted for collecting information, interpreting the same and to offer guidelines for a wide clientele consisting of Manufacturers, Associations, Governments and Corporations concerned with Small Industry Programme on (1) raw material distribution (2) items having scope for production in the small scale sector in a specific area, etc.

These are quite numerous in nature and provide vital information on various points to Information Counters, Extension Centres, State Governments and other Agencies as and when the need is felt.

### (d) SPECIAL SURVEYS

In order to meet the need for developing new strategies and finding out solutions to complicated issues hitherto not tackled, special studies are called for. Some of them are enumerated as under:—

*Survey for Bank Credit:* With the growth of small industries in India, there arose the need for financial assistance to these units. The financial agencies, who were familiar with the financing of commercial ventures mostly were called upon to meet the credit needs of small scale industries also about which they had little knowledge and were therefore, reluctant to finance them. Initially surveys called "Pilot Project Surveys" were conducted for the State Bank of India, to apprise them of the soundness of small enterprises and the prospects for their growth. These surveys outline the industrial resources and economic facilities available in each centre, analyse the existing industry structure, discuss the growth possibilities and provide information on additional capital requirements. SSIDO has conducted 21 such pilot studies.

It would be interesting to note that these surveys conducted in 1956 revolutionised the banking outlook of commercial banks and set entirely a new trend in financing operations which led to many promising developments subsequently.

*Surveys for Development of Ancillary Industries:* Small scale industries in course of time began entering secialised fields of production and were in a position to manufacture and supply precision components, parts and sub-assemblies required by various types of large-scale enterprises, for they were well-equipped with modern machinery and were technically competent to undertake such specialised production. In fact large industries began to rely on them for components on account of specific economic advantages.

The surveys conducted for development of small enterprises as ancillary units to large enterprises attempted to identify components that could be manufactured in the small scale sector. Existing small enterprises or new entrepreneurs were encouraged to manufacture the items required by large units. Effective liaison was maintained between the large scale units and their ancillary units in the small scale sector. The emergence of ancillary units in and around large undertakings in the public and private sectors was yet another important phase of development in the small scale sector. There are at present about 10,000 small factories engaged in ancillary production in the country as a whole and their number is bound to grow steadily with the setting up of new enterprises in the large scale sector.

*Surveys for Community Development Projects and Rural Industries Project Areas:* Community Development Projects were launched with a view to develop rural areas in India. To provide guidelines for the development of suitable industries in the rural areas of Community Development Projects, it was necessary to conduct specialised surveys.

Similar type of surveys were also conducted in Rural Industries Project areas. These areas have been selected for intensive development of rural industries.

These surveys differ from the usual surveys because the programme of development of industries has got to be integrated with the general scheme of development of the area as a whole.

### (e) EVALUATION STUDIES

Evaluation studies of the facilities offered for development of small scale industries were conducted for finding out deficiencies and make good the same. These evaluation studies facilitate future planning on right lines.

The important Evaluation Studies undertaken recently by the SSIDO were on (1) the impact of the Industrial Estates programme and (2) Financial Assistance rendered to small industrial units. The latter revealed the credit needs of small industry and also as to how far the existing financial institutions were meeting them. These studies have greatly helped in streamlining the assistance programmes of the SSIDO.

### (f) TOPIC STUDIES

Topic studies are conducted by the SSIDO with a view to bring together all the facts bearing on a particular aspect of small industry programme and as such may not be always action-oriented.

A detailed topic study was conducted on the financing of small industrial units. Many more useful topic research studies were also conducted by SSIDO.

## *II. Extension Services*

(a) INDUSTRY INFORMATION SERVICE
(b) MARKET SURVEYS
(c) INTENSIVE DEVELOPMENT CAMPAIGNS
(d) ASSESSMENT FOR INDIVIDUAL MANUFACTURERS FOR BANK CREDIT
(e) FEASIBILITY STUDIES

### (a) INDUSTRY INFORMATION SERVICE

So far we were discussing the economic services of the small industry programme in India relating to surveys. Now we shall discuss the extension jobs of the economic services.

In the initial stages of development, entrepreneurs were very few and they were not attracted towards small industries owing to a lack of knowledge of profitable small enterprises that could be set up and of the various facilities available to them. Hence the Industrial Information Service was organised to provide reliable information on practically every aspect of any small enterprise.

The various types of information available from the surveys mentioned in the foregoing sections were used for counselling small entrepreneurs. Technical Bulletins and Model Schemes were prepared as a result of the economic surveys. The Technical Bulletins were designed to apprise existing small enterprises of the correct technique of production. Model Schemes were prepared on small enterprises having scope for development. In the various Small Industries Service Institutes, Model Schemes containing information on capital investment, land and building, machines, raw materials, labour, etc. required, the margin of profit expected in manufacturing a product, etc. were prepared for the benefit of the entrepreneurs. These schemes are published by the SSIDO and are priced very low and an entrepreneur could select from among them a few such schemes in which he is interested. Economic information on the item was also provided to enable him to take an investment decision. Slowly and steadily this service also expanded to meet the growing needs of small industries. It was no longer a question of giving just general information readily available but one of counselling an entrepreneur about the desirability of taking up the manufacture of a new item keeping in view the industrial background and capacities. In view of the expansion envisaged in the small scale sector there was need to attract entrepreneurs to new ventures. In other words, this involved "creation" of entrepreneurs. Thus, Industrial Information service has the characteristics of documentation, information, public relations and counselling all in one. Effective follow up action is also taken and even assistance is given to set up the small enterprise. 276,540 persons have so far availed themselves of Industrial Information Service of the SSIDO and the types of enquiries related to various aspects of small enterprises such as sources of assistance, techniques of production, efficient methods of management & marketing, scope for new enterprises, ancillary industries etc.

### (b) MARKET SURVEYS

Small enterprises, generally having limited resources, cannot afford to organise Market Research and Intelligence, as effectively as the large scale units. This need of the small scale industries is sought to be met by the SSIDO by conducting Market Surveys. The main objective of these surveys is to study the structure of the market for a particular product, consumers' reactions regarding the various sales features of the product, distribution channels, sales strategy, pricing policy, proper publicity media etc. Another type of Market Survey which was intended to help individual small industrialists to promote the sales of their products in specific markets was also undertaken by the Small Scale Industries Development Organisation. This was called "Distribution Aid Survey". The Survey was fairly comprehensive as the problems of the entrepreneur were not just confind to finding out new outlets for his product but the marketability of the product itself based on such factors as product appeal, pricing system, appropriate distribution channels, alternate sales incentives, markets and product movements. Through these Distribution Aid Surveys, care was taken to collect market intelligence of general nature, which could be useful to other small industiralists aswell. This information was supplied to prospective entrepreneurs, and existing small industrialists in response to their queries. Between 1957 and 1969, 255 Distribution Aid Surveys were conducted by SSIDO on behalf of small industrialists who approached it for such assistance.

### (c) INTENSIVE DEVELOPMENT CAMPAIGNS

Although there has been a significant development of the small scale sector of industry in the country as a whole, it will be apparent that the growth of small scale units has naturally tended to be concentrated in and around important cities and industrial towns owing to certain inherent locational advantages. Small scale units have not come up in semi-urban or rural areas to the extent desired despite the scope for the development of small enterprises based on local resources as well as the growing demand for good services. An important reason for this may be traced to the lack of knowledge on the part of the entrepreneurs in such areas, about the potentialities of development of small enterprises or of the schemes of assistance available for setting up such enterprises. Hence Intensive Campaigns were conducted in such industrially backward areas to guide, motivate and encourage entrepreneurs in setting up new small enterprises or in the expansion and modernisation of existing small enterprises. These campaigns are jointly sponsored by SSIDO, the State Directorates of Industries, the National Small Industries Corporation and local Associations of small enterprises, if any, in order to provide all economic information, technical advice and guidance and other assistance in the form of hire-purchase of machinery, loans etc. all at one place, practically at the door-step of the entrepreneur.

These campaigns have attracted entrepreneurs, facilitated better utilisation of available resources, augmented employment opportunities and thus paved the way for dispersal of industries in areas where they are most desirable.

During 1968-69 alone, the SSIDO conducted 7 major campaigns, and assisted 2,200 entrepreneurs. During these campaigns applications for hire-purchase of machinery worth Rs. 119·3 million were received and processed on the spot.

### (d) ASSESSMENT FOR INDIVIDUAL MANUFACTURERS FOR BANK CREDIT

Commercial Banks were, until recently, reluctant to meet the credit needs of small enterprises as they were not familiar with the working of these enterprises and the types of security offered by them varied considerably and were not generally acceptable to the Banks. However, as a result of the vigorous efforts made by Small Industries Service Institutes of the SSIDO, Commercial Banks were convinced of the credit-worthiness of small enterprises and the marketability of their products. These Commercial Banks have changed their outlook and are offering liberal credit facilities to small entrepreneurs. Banks are now-a-days systematically apprised of the credit worthiness of entrepreneurs, the technical competence of their enterprises, the marketability of their products and the prospects of further development in order that they may confidently extend credit facilities to such enterprises. Over the last five or six years, the SSIDO prepared techno-economic assessment reports in 15,000 cases to help them process the loan applications from small industrialists without any avoidable delay. This service has enabled a very large number of small industrialists to receive bank loans and also proved very useful to the Banks in keeping the cases of defaults to the minimum. The request for such assessment reports is increasing every year and in the current year, the number of applications referred to this Organisation by the Banks may exceed 6,000 in view of the special responsibility put on the commercial banks to advance loans to small industries on a preferential basis.

### (e) FEASIBILITY STUDIES

This is a recent innovation in the extension techniques of the Economic Service. A feasibility study is undertaken to find out the feasibility of manufacture of a particular product at a particular place. The survey analyses availability of raw materials, skills, capital and markets with a view to determining the most suitable scale of operation and size of unit, having regard to the market and resource position. The study also helps to work out the economies of production and the expected profitability of the venture, along with the break-even analysis for the recommended size of plant. It also spells out how production should be organised and indicates the phases of production and investment programmes for optimum operation.

In the end, it may be stated that the varied nature of the services rendred by the Economic Investigation and Information Wing of the SSIDO has proved to be of immense value to the development of small scale industries in the country. With the help of the informed guidance available from the SSIDO the prospective small entrepreneurs have been able to take intelligent business decisions and plan their production on the correct lines from the very beginning. The choice of the product to be manufactured, appropriate scale of operation, suitable location of the unit and scope of marketing the products, etc. were all studied and analysed for him in advance. The key input of finance was also made available to him with the help of the assessment reports prepared by the Economic Investigation & Information Service of the SSIDO. In short, the whole programme of small industries development in this country could be conceived, planned, and implemented, in an effective manner, thanks to the contribution of the planning studies, economic investigation and surveys, evaluation studies, market research etc. carried out by the Organisation.

## INDUSTRY PROSPECTS SHEETS

**A.**

1. Ampules (glass)
2. Abrasives (coated)
3. Absorbent cotton (surgical)
4. Aerials (telescope)
5. Auto hubdrums
6. Amplifiers
7. Automobile radiators

**B.**

8. Beam scales
9. Bicycles
10. Brushes (paint)
11. Boiler mountings & accessories
12. Batteries (automobile)
13. Blades (hacksaw)
14. Brushes (tooth)
15. Brushes (industrial)
16. Bolts & Nuts

17. Boards (plastic)
18. Buttons (press type)
19. Bulbs (miniature)
20. Bolts & Nuts (high tensile)
21. Banana powder
22. Bricks (fire)
23. Bottles & vials (glass)
24. Bicycle accessories
25. Builders hardware
26. Buckles (garment)
27. Badges & buttons (metal)
28. Buttons from polyster sheets
29. Bushes gun metal

**C.**

30. Crown corks
31. Chains (bicycle)
32. Clocks & watches
33. Calcium carbonate
34. Condensors (gang type)
35. Contraceptives (Rubber)
36. Capacitors (paper)
37. Condensors (mica)
38. Condensors (electrolytic)
39. Call bells (electrical)
40. Carbon resistors (fixed)
41. Clips (link)
42. Clippers (hair)
43. Colour (artist)
44. Cards (playing)
45. Containers (composite)
46. Chalk crayons
47. Copper sulphate

**D.**

48. Domestic wireless receiver sets & components
49. Dynamos (automobile)
50. Distributors
51. Dry cells
52. Dusters
53. Detergent formulations
54. Drilling machines
55. Diamond tools

**E.**

56. Electric fans
57. Expanded metal
58. Eyelets (shoe)
59. Electrical accessories (wooden)
60. Electrical accessories (bakelite)
61. Electrical appliances (domestic)
62. Electrical porcelain & pressed parts

**F.**

63. Furniture (steel)
64. Fire works
65. Footwear (leather)
66. Floorings, Roofings & Glazed tiles
67. Fountain pens
68. Files & Rasps
69. Flourescent tubes
70. Foods (dehydrated)
71. Fans & Blowers (industrial)
72. Ferro & ammonia paper (sensitized)
73. Fruit juices & pulp

**G.**

74. Graphite crucibles
75. Geysers
76. Gloves (surgical)
77. Grease nipples
78. Glassware (pressed type)
79. Garments (leather foam)
80. Glass fibre tape cloth
81. Gas burners & cooking ranges
82. Gramophones

**H.**

83. Horns (electric)
84. Hinges (spectacle)
85. Hoses (brake)
86. Hearing aids
87. Hose pipes
88. Hoses (fire fighting)
89. Hand numbering m/c,
Postal flanking m/c,
Cheque writing m/c and
Hand stapling m/c

**I.**

90. Instruments (Scientific)
91. Irons (electric)
92. Insulator

**J.**

93. Jack (hydraulic)

**L.**

94. Loud speaker
95. Lamp (bicycle dynamos)
96. Lampholders (brass electrical)
97. Leather board
98. Locks
99. Leaf springs (auto)
100. Lantern (hurricane)

**M.**

101. Motors (electric)
102. Motors (electric F. H. P.)
103. Micrometers
104. Microscopes
105. Meters (water)
106. Meters (House Service)

107. Metallic yarn
108. Monofilaments from polyolefins

**N.**

109. Nail cutters
110. Nails (animal shoe)
111. Needles (sewing machine)
112. Needles (hosiery)
113. Needles (hosiery)
114. Nails (hob)

**O.**

115. Oil (palmrosa)
116. Oil (pine)
117. Oil seals
118. Oil (lemon grass)
119. Oil (orange)
120. Oil (turpentine)

**P.**

121. Pressure cookers
122. Pins & gem clips (paper)
123. Pencils
124. Pins (hair)
125. Polythene Tubing
126. Picking sticks
127. Potassium permanganate
128. Pipes & Fittings (cast iron)
129. Potentio meters
130. Plastic coated paper and cloth
131. Pump (fuel)
132. Pressure gauges
133. Papers (water proof packing)
134. Paper & Board corrugated
135. Paper cups and saucers
136. Plywood
137. Pipes (conduit)
138. Perfumery compounds
139. Plastic articles by compression moulding techniques
140. Papers (coated)
141. Plastic products from expanded polysterene beads
142. Pumps (coolant)
143. Paints and varnishes
144. Plastic laminates
145. Plastic blow moulded containers
146. Pens & Refills (ball point)
147. Paper products used in packaging industry
148. Paper cones & tubes
149. Pencil sharpners
150. Pumps (cycle)
151. Plastic articles
152. Paper sensitized

**R.**

153. Rivets bifurcated
154. Regulators (voltage)
155. Rivets—Hollow & solid out of aluminium
156. Rolling shutters
157. Rubber moulded goods
158. Rectifiers, Battery chargers, voltage stabilisers & boosters

**S.**

159. Safety pins
160. Sealed beams
161. Screws (machine)
162. Springs (upholstry coil)
163. Screws (wood)
164. Starters (electric motor)
165. Spindle inserts
166. Snap fasteners
167. Spectacle frames
168. Stoves (oil pressure)
169. Stapling machines
170. Syringes (hypodermic)
171. Storage & water heaters
172. Starters (flourescent tube)
173. Sprayers (insecticides)
174. Shaping machine
175. Switches ignition

**T.**

176. Thermometers (clinical)
177. Tapes (measuring)
178. Toys (mechanical)
179. Taps & Dies
180. Tapes (black insulating adhesive)
181. Trafficators
182. Tie Rod ends
183. Tubes (collapsible)
184. Tacks (shoe)
185. Transfer labels
186. Tape recorders
187. Tools (hand operated)
188. Tyres (bicycle)
189. Tools (pneumatic)
190. Tyres (scooter)

**U.**

191. Universal joints

**V.**

192. Valves (bicycle tube)
193. Vices (machine shop)

**W.**

194. Wire netting & Wire mesh
195. Wheels (bicycle free)
196. Washers (spring type)
197. Wipers (wind screen)

198. Wheels (grinding)
199. Welding electrodes
200. Wood wool
201. Wire (barbed)
202. Weights

*Note*: Includes 89 Industry Prospect Sheets which have been revised and brought up-to-date.

## AREA DEVELOPMENT SURVEYS

**Andhra Pradesh**

1. Adilabad
2. Anantapur
3. Chittoor
4. Cuddappa
5. Guntur
6. East Godavari
7. Karimnagar
8. Kurnool
9. Medak
10. Nalgonda
11. Nellore
12. Nizamabad
13. Srikakulam
14. Vishakhapatnam
15. Warrangal
16. West Godavari

**Assam**

17. Cachar
18. Darrang
19. Manipur

**Bihar**

20. Arrah—District Shahabad
21. Bhagalpur
22. Champaran
23. Darbhanga
24. Dhanbad
25. Dinjapur sub-Division
26. Gaya
27. Hazaribagh
28. Madhubani sub-Division
29. Monghyr District
30. Muzaffarpur District
31. Patna
32. Palamau
33. Ranchi
34. Santhal Parganas
35. Saharsa
36. Saran District
37. Singhbhum
38. Shahabad

**Goa**

39. Daman,
40. Diu, Dadra, Nagar Haveli
41. Goa

**Gujarat**

42. Banaskantha
43. Bhavnagar
44. Bulsar
45. Junagarh
46. Sabarkantha

**Haryana**

47. Hissar
48. Jind
49. Karnal
50. Mohindergarh

**Himachal Pradesh**

51. Bilaspur
52. Kangra
53. Kinnaur
54. Lahaul & Spiti
55. Mandi

**Jammu and Kashmir**

56. Baramulla
57. Doda
58. Entire State of Jammu and Kashmir
59. Jammu
60. Jammu and Kashmir (Intensive)
61. Ladakh
62. Rajouri & Poonch

**Kerala**

63. Alleppe
64. Calicut
65. Cannanore
66. Industrial Estate Survey of Ettumanur
67. Palghat
68. Trichur
69. Malnad
70. Laccadives

**Maharashtra**

71. Ahmednagar
72. Jalgaon
73. Koyna Project
74. Nagpur—Bhandara
75. Nanded
76. Nasik-Dhulia
77. Osmanabad
78. Ratnagri
79. Sangli
80. Vidarbha Region

**Madhya Pradesh**

81. Bastar
82. Bhilai Region Durg-Raipur

83. Sidhi
84. Seoni

**Mysore**

85. Bangalore
86. Belgaum
87. Bellary
88. Bidar
89. Coorg
90. Dharwar
91. Gulbarga
92. Raichur
93. Hassan
94. Kolar Gold Fields
95. Kolar
96. Malnad Area
97. Mysore
98. North Kanara
99. Shimoga
100. South Kanara
101. Tumkur

**Nagaland**

102. Nagaland
103. NEFA

**Orissa**

104. Balasore
105. Barapali Thana
106. Bolangir
107. Dandakaranya
108. Dodma Village
109. Jharsuguda
110. Kalahandi
111. Mayurbhunj
112. Puri
113. Rourkela
114. Sambalpur

**Punjab**

115. Hoshiarpur

**Rajasthan**

116. Alwar
117. Banswara
118. Barmer
119. Bharatpur
120. Bhilwara
121. Bikaner
122. Jhalwar
123. Jhunjunu
124. Kota
125. Nagaur
126. Pali & Bhilwara
127. Sikar
128. Sriganganagar
129. Udaipur

**Tamil Nadu**

130. Coimbatore
131. Kanya Kumari
132. Nilgiris
133. North Arcot
134. Pondicherry
135. Ramanathpuram
136. Salem Distt.
137. Salem Town
138. South Arcot
139. Tanjore
140. Tiruchirapalli

**Uttar Pradesh**

141. Almora
142. Azamgarh
143. Bahraich
144. Ballia
145. Bara Banki
146. Border areas of Chamoli, Pithoragarh & Uttarkashi
147. Border Areas of U.P. adjoining Tibet
148. Brindavan
149. Deoria
150. Gonda
151. Hardoi
152. Gopalpara
153. Gorakhpur
154. Hastinapur
155. Jalaun
156. Jhansi
157. Lucknow
158. Mau-Aima Block in Allahabad District
159. Mirzapur
160. Muzaffarnagar
161. Pilibhit
162. Rae Bareli
163. Rampur
164. Sultanpur
165. Tanakpur

**West Bengal**

166. Andaman & Nicobar Islands
167. Darjeelng
168. Kalayani Township
169. Purulia-Para Raghunathpur in Purulia District
170. Seven Police Stations of 24 Parganas
171. Shaktigarh Community Development Block
172. Siliguri Sub-Division
173. West Dinajpur

# B. INDUSTRY INFORMATION SERVICE FOR SMALL INDUSTRIALISTS

## Introduction

LIKE men, money and material being essentials for setting up an industrial enterprise, the knowledge of what, where and how to produce is a must for any one who is interested in starting an industrial unit. To an entrepreneur with comparatively large means information on these and other aspects of industrial activity is available from professional agencies which have specialised in industrial consultancy. A large scale enterprise may even have its own independent information service section. To a small scale entrepreneur, however, this service has to be provided by government or semi-government extension agencies. Indian experience in the Industrial Information Service as presented in this article, therefore, deals mainly with the facilities in this regard as are made available to small scale industrial enterprises in the country.

## Definition of a Small Scale Industrial Unit

The term "small scale industries" is used to refer only to 'modern' small enterprises using modern equipment, techniques of production and managment. As such small scale industries are different from Handloom, Sericulture, Coir, Handicrafts and Khadhi & Village Industries. The present definition of small scale industrial unit is that the capital investment on plant, machinery and equipment in a unit should not exceed Rs. 0.75 million.

It might be pertinent to mention here that in India the responsibility of promoting and fostering the growth of small industries rests with the State Governments.

The strategy of planning the development of small scale industries in a large country like India is based on the potential capacity of small enterprises to produce a large number of goods at relatively low investment costs, the advantage of greater employment opportunities per unit of investment in them as compared to large scale enterprises and the feasibility and desirability of organising their growth on a decentralised pattern throughout the country. This strategy is aimed to achieve a balanced industrial development by ensuring a fuller and better utilisation of untapped resources of capital and skill and a more equitable distribution of national income.

The appropriate role of small industries in a balanced industrial development and the best method of organising and promoting their growth in India were the subject-matter of study by an international team of experts, known as the Ford Foundation Team. The Team recommended the setting up of a separate organisation for planning and guiding the development of small scale industries programme in India by means of an effective and comprehensive "Industrial Extension Service". Thus, the Small Scale Industries Development Organisation came in existence in 1954. The SSIDO is essentially an Advisory body and Consultation Agency in all matters relating to the development of small scale industries in India and in this role it has to answer a large number of enquiries from a variety of clients who may be grouped as under :

a. State Governments.
b. State Small Industries Corporations.
c. * Financial Institutions—I.F.C., S.B.I. and Commercial Banks.
d. Commissions set up by the Government of India like the Planning Commission, Tariff Commission, etc.
e. * Departments of the Government of India like the Licensing Committee, D.G.T.D., D.G.C.I.S., D.G.S. & D., C.C.I. &E.
f. Federal, Regional and Local Associations of Small Scale Industries.
g. Large scale enterprises in the Public and Private sectors.
h. Existing small scale enterprises.
i. Perspective Entrepreneurs—by far the largest clientele comprising dealers and businessmen, well-to-do agriculturists, retired personnel from Government service and Defence Services, Indian Repatriates from other countries, technically qualified persons and a host of others who wish to set up some prospective small enterprise.

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*Industrial Finance Corporation (I.F.C.); State Bank of India (S.B.I.); Director General of Technical Development (D.G.T.D.); Director General of Commercial Intelligence and Statistics (D.G.C.I.S.); Director General of Supplies and Disposal (D.G.S. & D.); Chief Controller of Imports & Exports (C.C.I. & E.).

It need hardly be gainsaid that the SSIDO, to be able to answer the numerous enquiries from such a large number and variety of clients, must have the most effective and prompt "Industrial Information Service". The SSIDO in India is the only organisation collecting systematically a wealth of information and data on small scale industries in particular and economic and technical information in general. The nature of enquiries received from the clients mentioned above and the method of meeting their requirements are discussed below:

*a. State Governments*

State Governments usually require to know the potentialities of developing small scale industries in a particular district the scope of establishing new industrial estates at suitable locations; feasibility of rehabilitating displaced workers from a particular industry or repatriates from other countries; the problem faced by a particular industry and remedial action, if any, to be taken, etc. These enquiries require special studies, field investigation, data collection and analysis, indentification of problems and recommendation of appropriate remedial measures. The SSIDO has a cadre of technical experts and economists who make special studies and undertake surveys to answer such enquiries. These are Area Development Potentialities surveys, Techno-economic surveys Industry Analysis and Planning surveys, and Ad hoc studies or surveys.

*b. State Small Industries Corporations*

Many States have established Small Industries Development Corporations which are required to assist small scale industries in the procurement of raw materials, machinery on hire-purchase basis, participation in State Governments Purchase Programmes, development of quality marking schemes for small industry products, etc. As such these Corporations generally require information on the number of small scale units, the quantum of raw materials required by them, the type of machinery most suitable for a particular industry and the source of its availability, the scope for bringing small industry products under a suitable scheme of quality marking, etc. Such enquiries are answered after collecting requisite data by field investigations. In some cases the State Corporation itself may have set up some manufacturing enterprises and would like to know the prospects of marketing its products in the State as well as outside. To this end, Distribution Aid Surveys are conducted and appropriate information and guidance provided.

*c. Financial Institutions*

Credit-worthiness, technical competence and marketability of the products of particular small enterprises are usually reported to financial institutions after making a thorough study of the untis which apply for loans to financial institutions and commercial banks.

*d. Commissions set up by the Government of India*

These require information about the status of a particular small industry, its contribution in terms of employment and output to protect their interests and foster their growth.

The information required by the Planning Commission in connection with the preparation of Five Year Plans and fixation of priorities deserves a special mention. For the preparation of every Five Year Plan, the SSIDO has to supply detailed information on the performance of the small scale industry sector during the previous Plans. The SSIDO has also to give information for the future expansion of the sector, particularly with regard to the fixation of targets of production of different industries based on the demand and other resources, analyse the strengthening of the organizational structure to achieve the new targets, etc. This includes spelling out the schemes to upgrade the knowledge and skill of the technical and other staff of the Organization so that their services are available to the small scale industrial units who might come up in new and more sophisticated lines of production. Similarly, information has to be supplied to the Tariff Commission which goes into the question of allowing protection to indigenous sector of a particular industry and in this exercise, due emphasis has to be laid on the interests of the small scale sector. The Price Inquiry Commission, the Monopoly Commission and similar other high powered national commissions, which are appointed from time to time to go into various aspects of industrial development in the country, have also to be supplied with information so far as it relates to the small scale industry sector.

*e. Departments of the Government of India*

The nature of enquiries from various departments of the Government of India is, by and large, the same and the information about small scale industries is required to check further expansion of production capacity in the large scale sector; to recommend reservation of production exclusively in the small scale sector; to recommend restriction or ban on imports of particular items for which sufficient indigenous capacity has been built up; to recommend procurement of certain items of Government stores exclusively from the small scale sector; to build up a case for suitable incentives being given to encourage exports from small scale sector and many similar policy-decisions designed to encourage the growth of small scale enterprises.

### f. *Associations of Small Scale Industries*

As voluntary and non-official bodies, Associations of Small Scale Industries focus the attention of the SSIDO and its field Agencies—the Small Industries Service Institutes in every State—to certain problems of small industries that arise in the wake of major policy-decisions like "devaluation" of the Indian Currency, more recently the "Recession" in Industry. The effect of such economic situations on small scale industries are studied in detail expeditiously and appropriate measures to protect the interests of small scale industries are recommended. For example, consequent upon the devaluation of the Indian Rupee, the very definition of a small scale unit was revised. Again it was during the period of 'Recession' that special incentives were given to encourage exports of Indian engineering goods.

### g. *Large-scale Enterprises in the Public & Private Sector*

A very promising aspect of development of small industries in India is their emergence as viable and competent ancillary units to various types of large enterprises in the Public and Private sectors supplying them with many precision parts, sophisticated components and sub-assemblies. The SSIDO identifies such of those items as could be manufactured in the small scale sector and recommends to large scale enterprises many a competent small scale unit which could supply the items required by the large scale units. This phase of small industry development calls for a close liaison between large and small enterprises in various parts of the country and a thorough understanding of the nature and quantum of the requirements on the one hand and the development of adequate technical competence on the other to meet the requirements according to a set time-schedule of delivery.

### h. *Existing Small Scale Enterprises*

Right from the inception of the SSIDO, existing small scale industries and their growth on sound lines have been given due attention. The industrial structure of India at the dawn of Independence was far from satisfactory; the few industries that were existing then had to face serious shortages of technical skill, resources, raw materials and requisite infrastructural facilities on the one hand and on the other, they had hardly the capacity to cope with the competition from imports of a variety of consumer and capital goods. Thus, they were almost on the verge of extinction. In this context, the immediate and important task then was to give adequate sustenance and protection to and foster the growth of existing small scale industries. Systematic studies of existing small scale industries were undertaken to study in depth the nature of their problems and to recommend appropriate measures to ensure that they grow to be economically viable and technically competent units. These studies were called "Industry Outlook Surveys" and they helped many small scale industries in a variety of ways such as establishment of common service facilities at key centres of industrial concentration, publication of technical bulletins to enlighten small industrialists about the right techniques of production, establishment of Industrial Estates at various places to enable small industries to grow in ideal surroundings with assured infrastructural facilities, etc. The Reports on "Industry Outlook Surveys" provided the most comprehensive guide-lines to State Governments to provide appropriate facilities for the growth of small scale industries. All these promotional schemes had a sound 'demonstration' effect on many entrepreneurs who set up new small enterprises to take advantage of the growing demand for a variety of goods and services consequent upon the increase in the purchasing power of the people and their desire for a better standard of living. The SSIDO had to meet the needs of entrepreneurs by providing them with appropriate model schemes for the manufacture of a variety of consumer goods. These model schemes were so to say blueprints for new small enterprises, giving such important details as the investment required in land, building, machinery and working capital, the type of machinery to be installed, the raw materials to be used, the techniques of production to be adopted, the requirements of skilled and unskilled labour, the extent of the market, the expected sales turnover and margin of profit in each enterprise. Even now, the existing industries need such techno-economic reports for expansion, modernisation and diversification of their production. A more rational approach in such circumstances, adopted by the SSIDO, is the study of the individual small scale enterprise in all its vital aspects of manufacture, management and marketing and to suggest suitable measures to enable the unit to plan for expansion, modernisation and diversification. These studies are called "Inplant Studies". Appropriate schemes for the manufacture of new products and for the improved process of production are also provided to the existing industries.

Where the problem of an existing small enterprise relates articularly to the marketing of its products, special market studies are undertaken to apprise the small industrialist of the nature and extent of the market for his products, the methods of advertising and selling adopted by the competitors in the product line, the distribution channels and the incentives being offered to dealers in the trade and the effective measures that could be tried to push up the sales of the product in question. These market studies are undertaken at the instance of the small industrialist on a nominal charge of Rs. 250 per product and the study covers an entire region comprising three or more States. These market studies are known as "Distribution Aid Surveys" and they have provided valuable, practical guidance in marketing of many small industry products.

The SSIDO also conducts "Regional Market Surveys" for particular products, to study such important factors as the share of the market as between the products of small scale and large scale industries, their competitive strength in terms of price and quality performance, the preference of the buyers for particular brands, the variation in the consumption pattern, the sources of supply and its adequacy to meet the demand in the region, the future demand for the product in the region and assess the scope for encouraging new entrepreneurs in the product line. Such Regional Market Surveys have been found to be useful in counselling small industrialists on the marketing aspects of the product in question and apprising them of the channels of distribution and also the scope for new units wherever desirable.

Another important type of information given to the existing industrialists is in the production of quality goods according to acceptable standard specifications. The SSIDO is represented on various panels and sub-committees of the Indian Standards Institution to evolve and finalise suitable specifications for a variety of products. Small industrialists are apprised of the correct specifications and the methods to be followed to manufacture and test the quality of products. For this purpose a complete catalogue of standard specifications of the I.S.I. are maintained in each Small Industries Service Institute, the field agency of the SSIDO.

### *I. Prospective Entrepreneurs*

The level of economic development in any country can be directly correlated to the quality and vitality of its entrepreneurs. Plenty of resources may be available, abundant facilities may be provided, but if entrepreneurship is lacking no development can take place. This is particularly true of underdeveloped countries. In India, however, we cannot say that entrepreneurship is lacking; it is lying dormant. Indian entrepreneurship until the achievement of Independence was very much confined to trading and financing rather than manufacturing. Even in manufacturing India, no doubt, had a lead from very ancient times. But these activities were crippled by the absence of necessary governmental patronage and assistance until recent past. Hence one may say that the latent spark of entrepreneurship is still there and can be kindled to advantage.

Soon after the attainment of Independence, the more affluent class of entrepreneurs with established business houses took a lead in setting up many large enterprises. But in the case of small enterprises, the entrepreneurs were few and far between in the initial stages. This was so because many entrepreneurs were not aware of the potentialities of development or the various schemes of assistance available to set up small scale enterprises.

With the increasing tempo of economic development in the country there has been a great rise in the demand for a number and variety of new goods and services many of which could be produced or provided by small scale enterprises. There has also been a shift in the type of entrepreneurs approaching the SSIDO for advice and guidance on new small enterprises. Whereas in the initial stages the entrepreneurs were drawn mostly from the business community, now-a-days they form a heterogeneous group like qualified engineers or technicians working in public or private manufacturing enterprises, retired government servants and service personnel, technically qualified graduates who prefer self-employment to service, repatriates from various countries who wish to rehabilitate themselves in India by setting up small enterprises and so on and so forth.

These entrepreneurs perhaps form the largest clientele of the SSIDO. The type of enquiries made by them may be enumerated below:

(1) Definition of small scale industries and facilities available under the S.S.I. Programme;

(2) Scope for new industries in a given area;

(3) Scope for manufacturing new products;

*The Industry Information Service of S.I.S.I. Bangalore at work.*

(4) Industries that could be started in a given investment range;

(5) Assistance available from various Government agencies and the procedure for obtaining such assistance;

(6) Marketing facilities for small industry products;

(7) Market intelligence such as names of dealers in particular product lines, off-take of specific items of manufacture, prices of different brands of a product available in the market, etc.

(8) Procedure for registration of small scale enterprises and the benefits accruing therefrom;

(9) Procedure for obtaining import licence;

(10) Types of factory accommodation in industrial estates, their availability and procedure for applying for the same;

(11) Machinery and equipment required for a particular line of production or servicing—their prices and suppliers—procedure for hire-purchase of machinery;

(12) Details of raw materials required for the manufacture of a particular product, their source of supply, prices or where these are scarce the substitutes that can be used;

(13) Technical know-how for a new product—procedure for obtaining foreign collaboration;

(14) Patented Processes developed by the National Laboratories which could be exploited by new small enterprises and the procedure for obtaining such processes;

(15) New enterprises that could be set up to manufacture products which can substitute imports;

(16) New enterprises that could be started based on the requirements of large public sector undertakings such as Railways, Defence, etc. as well as on the requirements of private sector industries like automobile and tractor manufacture, machine tools, etc.

(17) Publications of general and technical nature available from the SSIDO.

(18) Type of assistance available for undertaking new inventions and/or for manufacturing prototypes.

The above list is only indicative of the types of enquiries and is by no means exhaustive.

From the aforesaid description it is clear that how in India a large clientele approaches SSIDO for information on almost every aspect of industrial exercise.

To meet this, the Industrial Information Service is sustained by a steady flow of relevant information from several sources and by ad hoc investigations. The sources of published information could be classified broadly into two categories viz:

(1) Publications of the SSIDO in the form of Schemes, Technical Bulletins, Reports (both Industry Outlook Reports and Area Survey Reports), Industry Prospect Sheets. data collected on ad hoc enquiries, Index Cards, etc.

(2) Publications other than those of the SSIDO such as the Directories of Small Scale Industries published by the State Governments, Handbooks of indigenous manufacturers published by the DGTD, Policy and Handbooks of the Import Trade Control Authority; Monthly Statistics of Foreign Trade of India, Journal of Industry & Trade, Reports, Bulletins, Brochures of Indian Institute of Foreign Trade, Export Promotion Councils, Technical literature of the C.S.I.R. like 'Research and Industry , Periodicals of various Research Laboratories and bulletins on newly developed processes; Indian Standard specifications; special feature articles on industries appearing in dailies and periodicals.

Another important source of information is from dealers and manufacturers in particular lines from whom data on production, capacity, markets, demand, consumption, channels of distribution, wholesale and retail prices, etc. are collected.

The Industrial Information Service of SSIDO is at present handling 25,000 to 30,000 enquiries per annum. The nature of enquiries also has changed in as much as the entrepreneurs seek more specific information on technical, managerial and marketing problems and also on the latest techniques of production, new items of manufacture hitherto not ventured in the small scale sector, etc. This has naturally widened the scope of the Industrial Information Service and the need for collecting, codifying and classifying information data has been fully realised and every effort is made to keep them up-to-date.

The problems of small industry development are more or less similar in under-developed countries and these have to be tackled in a comprehensive way through a well-coordinated programme of industrial extension services and effective schemes of assistance. Among the various extension services, the Industrial Information Service should be given top priority. Perhaps the experience gained and the expertise developed in India in Industrial Information Service may be of use to under-developed countries.

Teams of Indian Economists and Technologists in Small Industry Development have already visited countries like Egypt, Iran, Afghanistan, Nigeria, Togo and Dahomey to study the problems of developing small scale industries in these countries and have submitted suitable programmes for their development. These reports submitted by Indian experts have earned great appreciation from the host Governments. Some of the governments have even evolved regular programmes of developing small industries in their respective countries based on the recommendations made in these reports. It would be appropriate if some sort of joint agency could be set up to organise a regional Afro-Asian Information Service for industries. This agency with a unit office in each member country could pool the experience of all member countries and disseminate the information thus collected to the respective governmental and non-governmental extension agencies which have been charged with the responsibility of implementing the industrial development programmes. In fact, a beginning has already been made in India in this regard. In pursuance of the recommendations of the First Afro-Asian Conference on Small Scale Industries held in Cairo, the Government of India has set up an Information and Consultancy Services Bureau for Afro-Asian Centre in the Office of the Development Commissioner (Small Scale Industries), New Delhi. The Bureau is designed to furnish any information required by African and Asian countries in accordance with the scheme which was evolved as a result of the recommendations made in the Afro-Asian Conference held at Cairo. It is hoped that the other member countries of the region will also set up similar Bureaus in the near future.

### Small Industry Technical Documentation & Communication Centre

Of late, there is an increasing awareness among the extension agencies to help small industries by informing them the latest developments in the world of technology and for this purpose assimilate the results of latest research work being done in different parts of the world. To achieve this, it is necessary to devise an organizational machinery for the collection, compilation and dissemination of the results of technological and management research. It has also been recognised that to facilitate the optimum utilization of scarce capital equipment and plentiful supply of labour which are characteristics of the Indian economy, the small scale units should be assisted in identifying and adopting appropriate or low capital cost technologies which are at the same time consistent with the economy, efficiency and quality. These aspects of the programme for small industries development are particularly important in the context of the need for (a) achieving sophistication and specialisation in production and adopting modern designs and processes so as to compete effectively in international markets, (b) taking up the manufacture of industrial goods which are still being imported, (c) harnessing the opportunities opened up by the development of relatively new product-lines such as plastics, electronics and dye-stuff formulation and (d) undertaking the utilization of hitherto unused indigenous raw materials, etc.

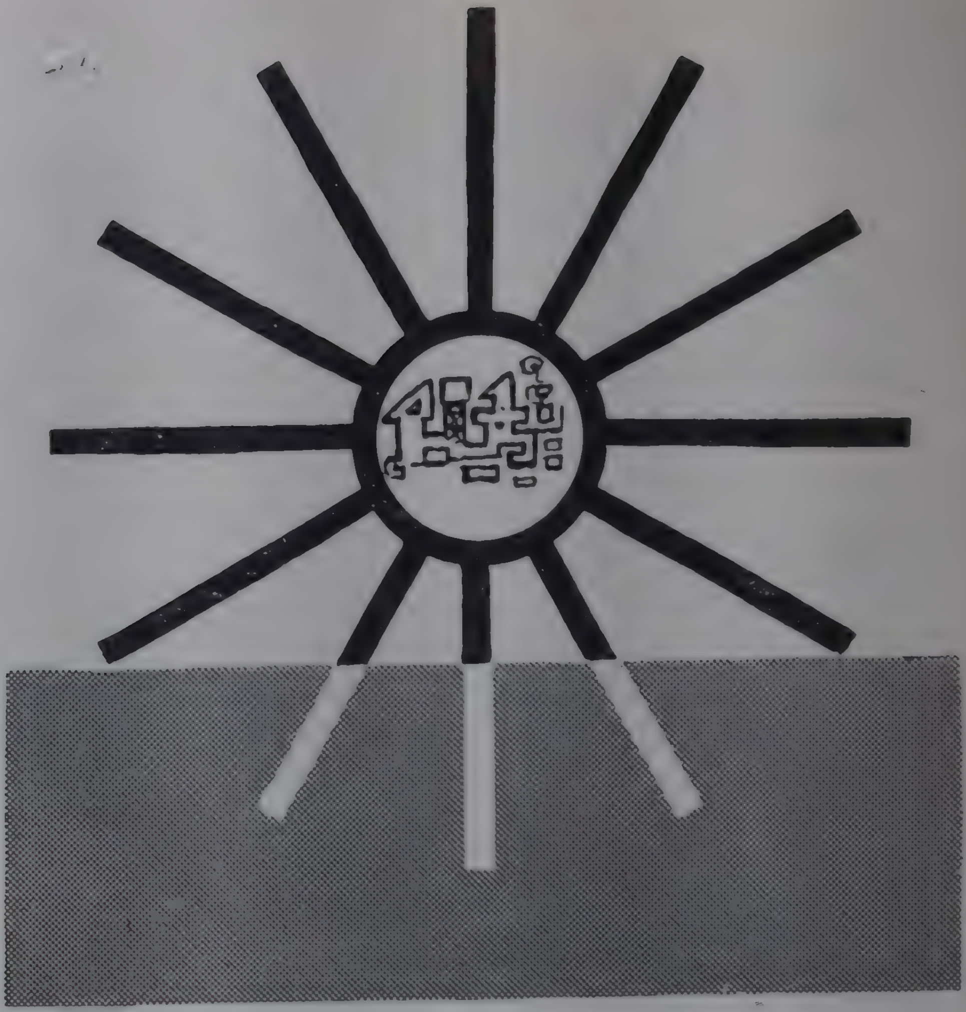
For the attainment of these objectives, there is an urgent need to pool together the vast amount of technical knowledge and information that has already been accumulated in the SSIDO and at the same time arrange for collection and compilation of results of technological research in different parts of the world. In the present competitive world of science and technology, industry needs such factual information for studying the possibilities of new techniques, new processes and their application in improving quality and design of industrial and consumer products, reducing the cost and increasing the attractiveness to existing and potential consumers. In addition to what is already available in the SSIDO, a vast amount of scientific and technical information of value to industry is available in the national net-work of research laboratories in the country. Besides, the results of scientific work being done in other parts of the world are being disseminated both through specialised agencies and through technical journals which have international circulation. These various sources of information have to be pooled together, analysed and transmitted to the ultimate users, viz. small manufacturing enterprises. It has, therefore, been provided that a Small Industry Technical Documentation and Communication Centre may be set up for the above purpose. Emphasis in the work of such a centre would be on the prompt compilation of results of latest research and transmission of technologically useful information to industrial extension personnel and small scale industries. Some of the important functions of such a centre would be as follows:

(a) continuous and comprehensive collection of technical literature;
(b) selection, assessment, classification and indexing of data so that it may be adopted to solve current problems and future needs of small scale industry development;
(c) dissemination of selected technical material and data on extension personnel and small industries;
(d) running a photo-copy service for supplying copies of technical articles, patents, designs, etc;
(e) preparation of active list of all specialists in various industrial fields who can be appointed/adopted as consultants for the benefit of small industries;
(f) to act as liaison with national laboratories, large scale industries, etc. for collection and dissemination of results of research; and
(g) to assist small scale industries in obtaining technical literature from abroad.

As part of the work of the documentation centre, studies could be taken up for identifying appropriate technologies for the benefit of small industries. There is a tendency among Indian Industries both large and small to use highly capital-intensive technologies, especially those available in foreign countries, regardless of their economic necessity. In the context of the peculiar pattern of resources endowment in India, there is need for using high-labour and low-capital technologies so as to make the optimum use of scarce capital equipment. This is necessary particularly in a country like India where the availability of resources—both human and natural—is of such a diverse nature as to offer scope of development for different industries not necessarily of uniform size and technology. For them, therefore, the identification of the appropriate level of technology to be adopted is necessary and in this task, the proposed documentation centre will be rendering a very useful service.

The proposed Technical Documentation and Communication Centre will be set up as a research wing of Small Industries Extension & Training Institute, Hyderabad, for which a provision of Rs. one million has been made in the Fourth Five Year Plan.

# TECHNICAL SERVICES



THE Small Industries Assistance Programme when it was launched in India in 1954 aimed at providing an integrated industrial service for the development of small industries. The three main ingredients of this service were technical, management and economic improvements required for developing a modern small industry sector. Besides this, various types of assistance relating to finance, raw materials, worksheds, etc. were also provided. However, for ensuring the required impact of these inputs, the small industrial units needed requisite technical and managerial standards. The Small Scale Industries Development Organization programme was, therefore, primarily aimed at providing these services through a network of Small Industries Service Institutes and Extension Centres and to co-ordinate the assistance programmes of the various State Governments and other agencies relating to small industry development.

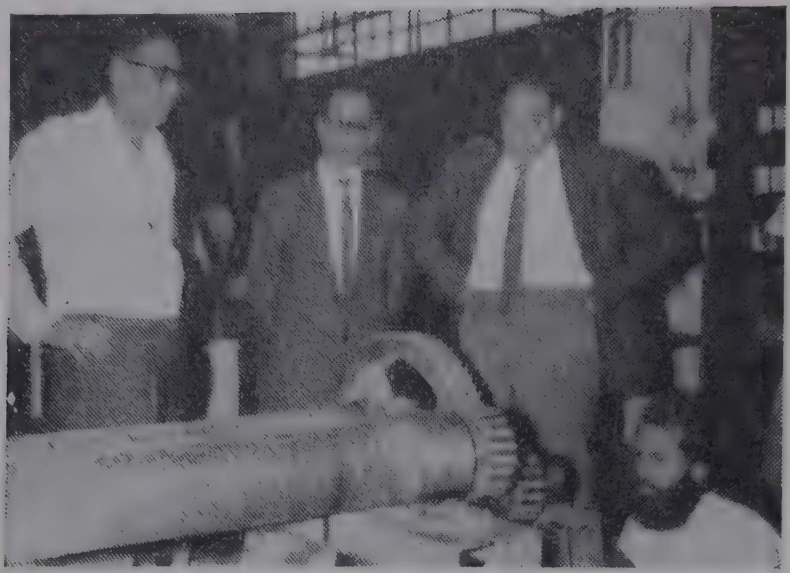
At a time when the small industry sector was emerging as a distinct factory sector with modern techniques of production and using modern types of machinery and technical processes, technical services among others formed a leading plank of service to modernise the small industry structure. Provision of technical know-how covered not only the existing small units but also a large number of new small units so as to utilise the abundant resources in material and skills, otherwise lying untapped for industrial development. This involved development of new technical processes and skills apart from the improvement of existing ones.

In a way, upgrading of skills and modernisation of processes and machinery embrace a fairly wide field which among others involve training and management skills. Upgrading of technical skills has been dealt with separately under the heading 'training elsewhere' in this souvenir in a comprehensive manner.

The entire purpose of the programme of providing technical know-how has been to ensure production of standards and quality goods which had been a weak point with the small industry sector hampering its growth very much in the past. Realising the need for improving small industry production, Government of India launched a series of programmes on Quality Control and Standardisation which has been dealt with elaborately elsewhere in this souvenir. In fact, a separate Institution by the name of Indian Standards Institution has been set up for the purpose of evolving out standards for each industrial item of production and to ensure quality of goods which are produced. The programme of technical services under the Small Scale Industries Development Organization is directed to meet these requirements also.

*Technical knowledge and information acquired from various national and international agencies are fully utilised to advise the existing as well as new types of small scale units.*

*Shri K. L. Nanjappa, DC(SSI) receives a bunch of technical booklets on various items of manufacture from Mr. Leonard J. Saccio, Director, USAID, New Delhi.*



*Steel rollers 8′ long and 6″ dia together with gear machanism for plate bending machine (5/8″ capacity) machined in the workshop at SISI, Cuttack.*

The pace of progress registered by the small industry sector has been phenomenal. A glimpse of this story of development is available in the various pages of this souvenir. The technical services programme detailed as under has played a significant role in facilitating this progress.

(a) *Provision of technical projects*

The technical wings of the SSIDO prepared 238 model schemes, 224 Impact Schemes, 314 'Towards Better Techniques' and a number of Small Industry Plant Guides. The first two provide, in brief, technical guidance on capital investment, process of manufacture, machinery, cost of production and profits. The third one deals with a particular technical problem of the industry. The Plant Guides comprehensively deal with the various aspects of production, marketing, costs, etc. for manufacturing an item on small scale. These publications were distributed either free of cost or at a nominal price to approaching entrepreneurs. The existing and prospective entrepreneurs get a general idea and insight of technical aspect of production from these ready-made projects. A prospective entrepreneur who selects a particular line of manufacture is further assisted with the preparation of a complete technical project which will be a blueprint for him to set up the proposed unit. Almost every possible area of technical know-how is covered in these projects. In case any need is felt for advanced know-how, the Organization falls back on the chain of National Research Institutes. The personnel of the organisation is also periodically augmented so as to cover the entire gamut of technical needs of small industry.

(b) *Know-how on machinery, processes, costing and other ingredients*

Working out improved and more up-to-date techniques of production is the basic aim of the organization. The technical experts provide information on improved types of machinery, better use of raw materials and processes, stricter control over outlays of expenditure so as to effect savings, advice on marketing skills etc. to the entrepreneurs both at their very doors in the factory premises as well as in the Institutes.

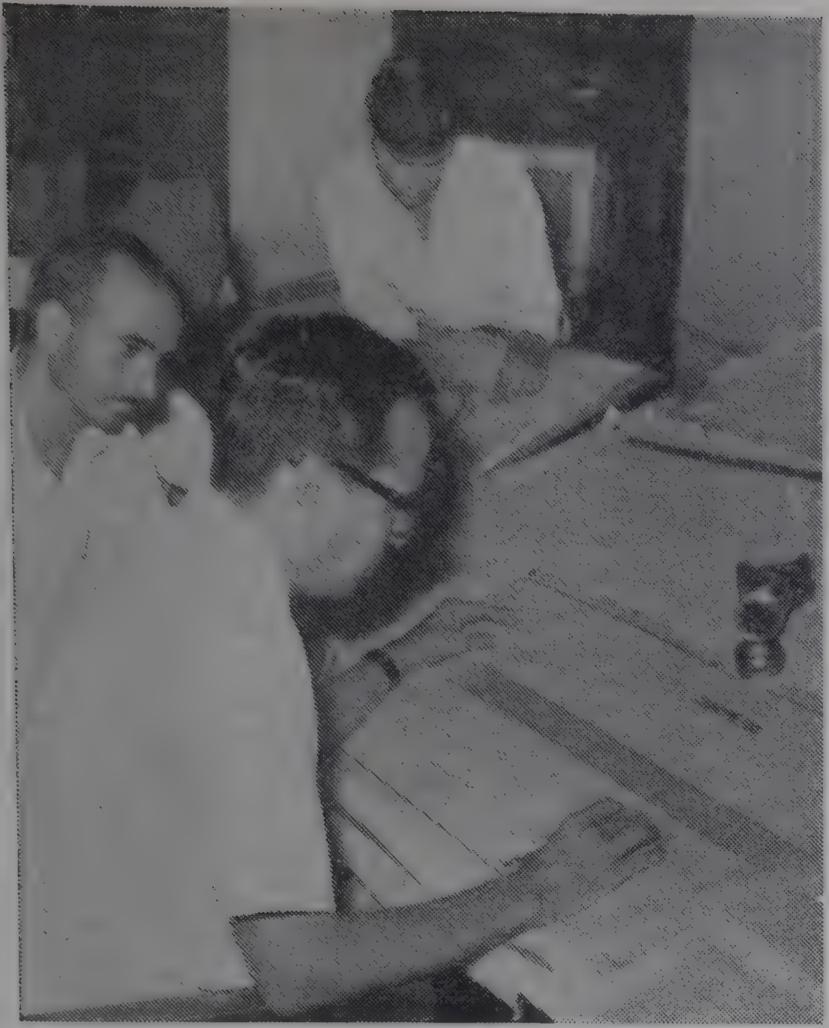
(c) *Problem-oriented technical consultancy*

In the initial stages, the energies of the SSIDO were directed in uplifting the technological base of small factories so as to make them modern and competitive. A number of typical problems required analysis and solutions for which the small industrialists did not have either the means or the required personnel. The workshops and laboratories attached to the Organization are always available to take up these challenges and suggest effective solutions.

(d) *Intensive studies in depth*

Some of the problems faced by small industry are of such magnitude that they require continuous observation, analysis and development of new techniques. These types of intensive technical assistance are rendered on a selected basis in view of the dearth of personnel with the organization.

*Technical consultancy service at SISI, Rajkot. Prospective entrepreneurs being advised on the appropriate technique of manufacturing "Universal Joint Cross".*



*It is not always an idea that matters. Clear designs and accurate drawings are essential prerequisites for the manufacture of quality products. Every SISI has a Design & Drawing Section to meet this need of small scale units. Designing of broach and gauges under preparation in SISI, Ludhiana.*

The following table will give an idea of the amount of work turned out from the inception of this service:

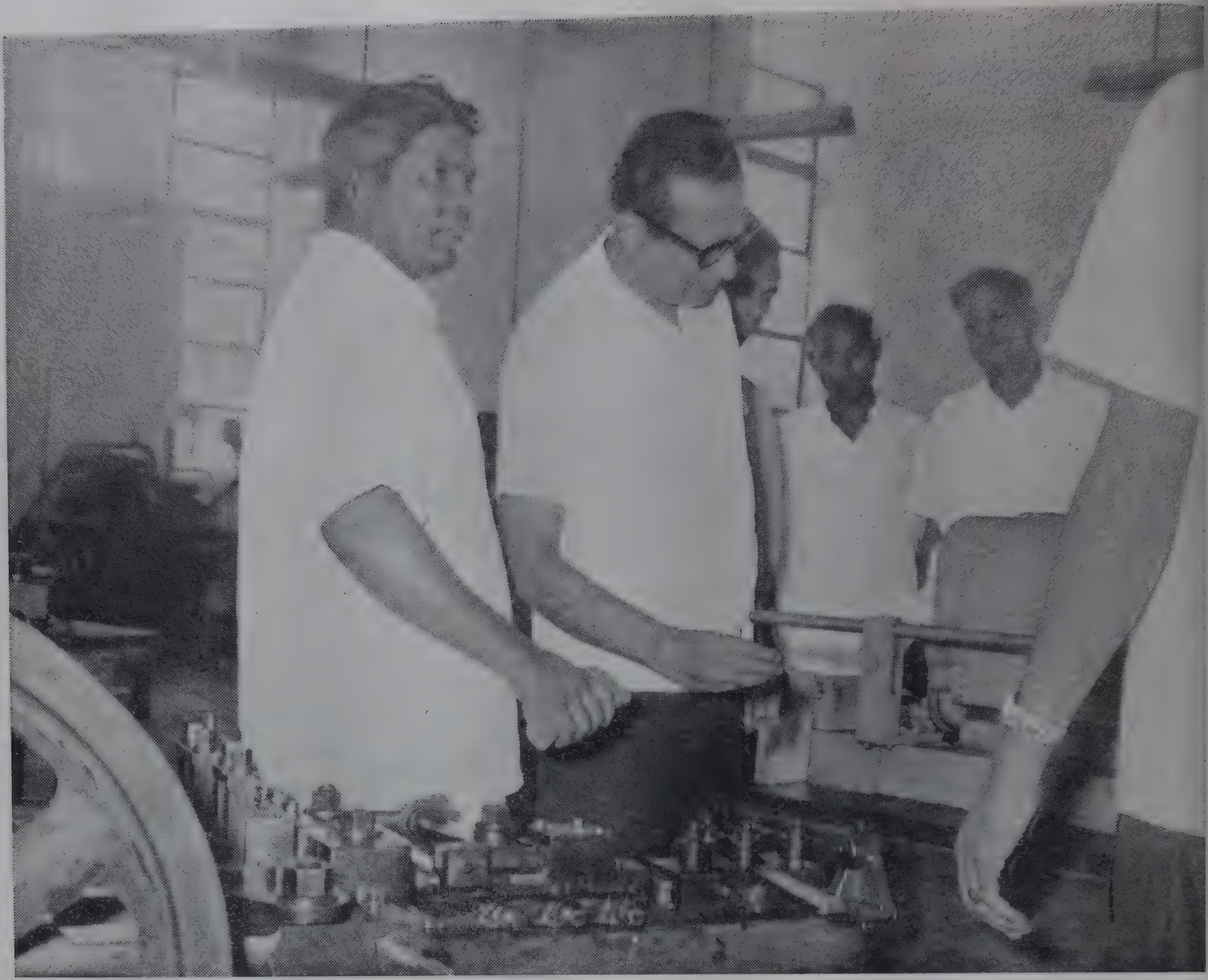
*Technical Advisory Service*

| Year | Number of technical advices rendered | Number of advices given to start new industries | Number of visits to enterprises |
|---|---|---|---|
| 1956-57 | 8108 | 845 | 15710 |
| 1957-58 | 17978 | 3970 | 19861 |
| 1958-59 | 18710 | 7978 | 27657 |
| 1959-60 | 23976 | 14547 | 39511 |
| 1960-61 | 34085 | 23169 | 43807 |
| 1961-62 | 41387 | 23531 | 46386 |
| 1962-63 | 49579 | 23919 | 48777 |
| 1963-64 | 52896 | 24995 | 52465 |
| 1964-65 | 52980 | 24569 | 50080 |
| 1965-66 | 57604 | 23614 | 56724 |
| 1966-67 | 57361 | 26221 | 58987 |
| 1967-68 | 66413 | 28810 | 64539 |
| 1968-69 | 71661 | 27552 | 66375 |
| 1969-70 | 84968 | 35641 | 69562 |

*Testing facilities are provided by the SISI & Extension Centres for carrying out simple chemical and physical tests. Photo shows chemical analysis in progress in the laboratory attached to SISI, Calcutta.*

(e) *Supply of Designs and Drawings*

Small industrialists not only wanted designs and drawings, but, in the initial stages were to be persuaded in adopting modern designs to improve quality of production. Designs are prepared (1) for machine tools, jigs, dies and fixtures and (2) for specific products. Layouts are prepared for new worksheds, process flow and machines. Every Institute is equipped with facilities for providing blue-prints and drawings. Realising the need for advanced type of designs and drawings, the Organisation augmented its capacity and expertise in this direction by setting up an Industrial Design Cell with required facilities at the Small Industries Service Institute, Okhla, New Delhi. Improved product designs are prepared by studying consumer preferences, functional values, aesthetic appeal and manufacturing capacity of the



*Small industry growth in India is phenomenal. They are keen on entering into new fields of production & require assistance from the SISI for this purpose. Picture shows Dy. Director (Mech. Engg.), SISI, Madras explaining the working of the Glass Blowing Lathe designed and developed by the SISI, Madras.*

producer. The following table will show the quantum of work turned out by the Industrial Design Cell during 1959-60 to 1969-70.

| | | |
|---|---|---|
| Designs prepared | — | 1214 Numbers |
| Drawings prepared | — | 1845 Numbers |
| Prototypes | — | 246 Numbers |
| Blue-Prints supplied | — | 12065 Numbers |

(f) *Workshop and Laboratory Services*

Every Small Industries Service Institute has well-equipped workshops and laboratories. Besides, there are 55 Extension Centres attached to these Institutes. These workshops and Extension Centres cover such engineering services like machine shop practice, sheet metal, tool room and foundries among others. Laboratories have facilities like sand-testing, metal testing, electrical testing, ceramics and metal finishing to mention a few. These workshops and laboratories are equipped with improved machines and equipments. They undertake common facility services for small enterprises who do not have requisite machinery and charge nominal rates for carrying out the jobs. They also provide training in various technical trades and develop new machines. The following table will

*It may be a small detail but can mar the production. Technical service being rendered by an officer of the SISI, Ludhiana to ensure correct methods of charging a cupola in a small foundry.*

give a fair view of the popularity of this service:

*Number of parties assisted and amounts receivea*

| Year | Number of parties assisted | Amount received Rs. |
|---|---|---|
| 1962-63 | 13747 | 10,78,546 |
| 1963-64 | 16197 | 11,46,167 |
| 1964-65 | 18934 | 17,31,477 |
| 1965-66 | 20601 | 8,97,461 |
| 1966-67 | 20966 | 10,46,825 |
| 1967-68 | 29000 | 11,00,000 |
| 1968-69 | 30000 | 11,23,000 |
| 1969-70 | 31355 | 13,50,000 |

(g) *Mobile Workshops*

There are 46 mobile demonstration workshops attached to the various Small Industries Service Institutes. They cater to trades like blacksmithy, carpentry, leather, glass, electro-plating, etc. They visit rural concentrations of concerned skills and give demonstrations to artisans in improved skills. These workshops are fitted with suitable machines for providing demonstrations. They also conduct training. This programme is primarily meant to upgrade the skills in rural areas. During the period 1960-61 to 1969-70 these workshops visited 14,065 rural centres, held 44,964 demonstrations and trained 58,809 artisans.

### (h) *Assistance to State Governments*

In addition to technical assistance to small scale units, the SSIDO assists State Governments, Rural Industries Planning Committee of Planning Commission and other Government Departments in examining schemes prepared by them for the development of small scale industries. It was found that on an average about 1000 such schemes are prepared and/or scrutinised every year all over the country.

### New Dimensions

When the Small Industries Assistance Programme was started, the goods produced in the sector were of a comparatively simple nature like tin boxes, wooden cases, leather hand bags, leather goods, ankle and ammunition boots, chappals and brushes, etc. The Industrial Extension Service was set up to meet the requirements which were of simple nature. As is well known, the response to the small scale industries programme was tremendous and even before the end of the Second Five Year Plan i.e. within five years of the commencement of the programme. the units in the small scale sector were found to have taken up sophisticated items requiring high degree of technical skill. Amongst the items so undertaken were electronic instruments, water meters, precision instruments, gears, radios including transistors, etc. Similarly small industrialists began to take interest in various chemical industries, pesticide formulations, plastics, glass fibres, reinforced plastics, etc., etc. The development of small scale units as ancillaries to large scale units and the active participation of small units, in not only exploring foreign markets but also effectively exporting goods, competing with their large scale counterparts, further added to these demands. The DC(SSI) also agreed to assist State Financial Corporations and State Bank of India and other financial institutions by supplying technical reports on the working of the units to which loans were advanced. Simultaneously, Small Industries Service Institutes assisted the small scale units to register under the Government Purchase Programme and to produce goods as per the specifications of the Directorate General of Supplies and Disposals. When these new demands emerged, the technical assistance programme was geared to meet them.

The technical problems faced by small scale units are no longer of a simple nature. Sometimes they require the attention of a group of technical officers and sometimes they need much further experimentation, if not research, but at least collection of up-to-date technical information. The technical officers are continuously endeavouring to keep themselves abreast of the latest developments in their respective fields and with their field experience, the quality of this service considerably improved. Even then, it is necessary, that the field officers have to keep abreast of the latest developments in their respective trades so that they might effectively serve the small scale units.

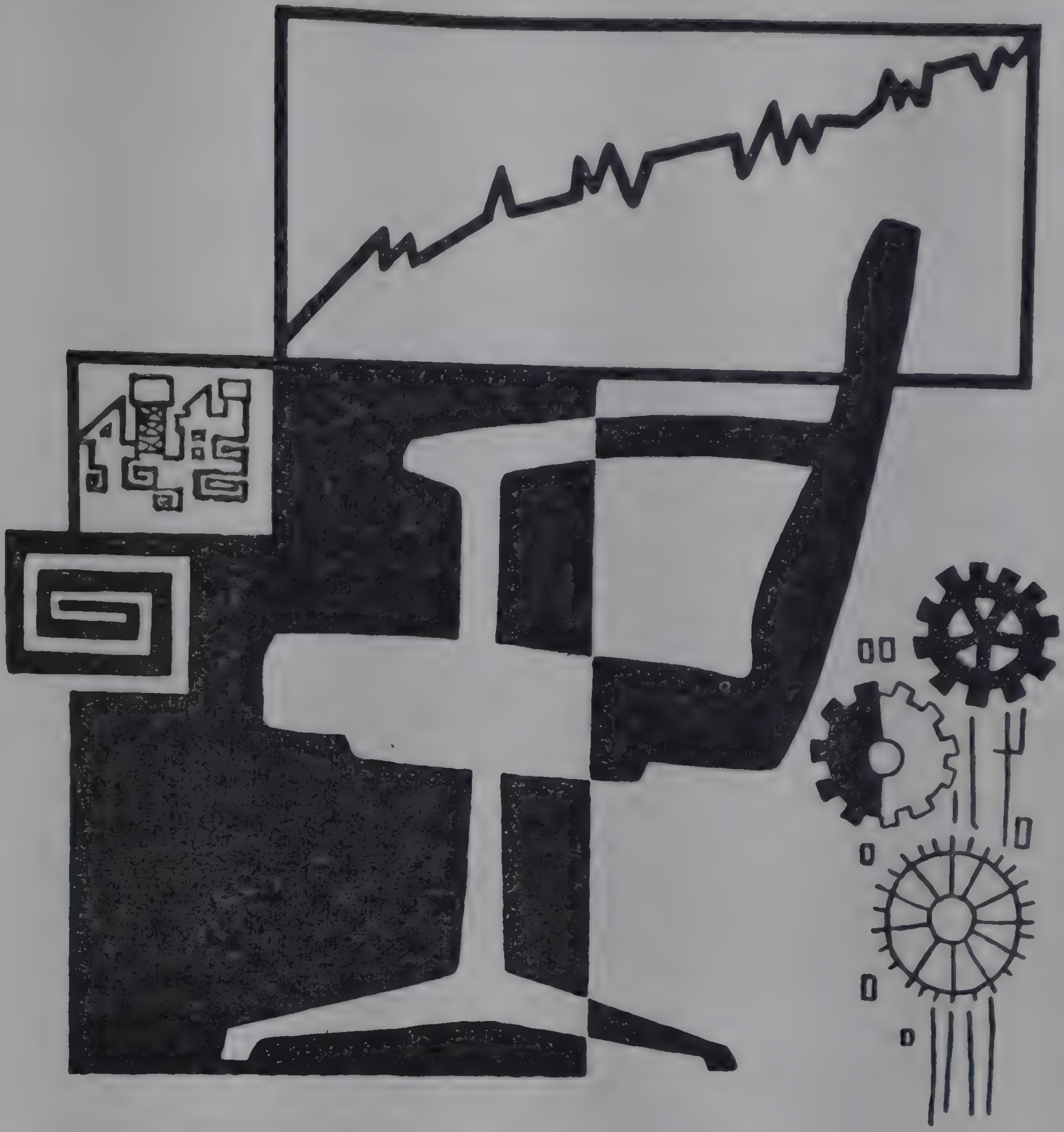
Various steps have been taken to improve the skills of the field officers in giving technical advice to the small scale units. A large number of them have been trained either within the country or abroad. Seminars on various subjects like tool room operation, machine tool industry, plastic industry, leather tanning, leather goods, etc., were organised to facilitate exchange of experience and cross ventilation of new ideas. In some of these seminars attempts were also made to bring in the large scale and small scale sectors together for fruitful cooperation. Open House Discussions have been organised on various topics like foundry practice, measuring instruments and their use to inspection techniques, graded varieties of pig iron and their composition, etc., to enable rapid dissemination of latest developments, to a large number of industrialists and to facilitate exchange of their experience.

Another service taken up during the last few years was 'in-plant studies' whereby a group of technical and management officers study various aspects of the working of a unit, such as production, marketing, costing and finance, for a period of 2 or 3 weeks and suggest methods for its all round improvement. This service has been welcomed by the small scale units and the demand for it is continuously increasing and could not, unfortunately, be met in full.

Yet another important part of the Industrial Extension Service is the 'intensive campaign' or 'group extension service'. Through these campaigns efforts are made to locate prospective entrepreneurs amongst the rural areas and induce them to start small scale industries. Details of this technique and the work done in this direction are detailed in a separate article in this souvenir.

Technical assistance through Small Industries Service Institutes has thus been a major input in the development of small scale industries in this country. This comprehensive technical and management consultancy service, to suit the requirements of small scale industry, has proved its usefulness, and with the flexibility and adaptability shown during the last few years, there is no doubt that this service would be able to meet new situations and new demands as they arise.

# MANAGEMENT CONSULTANCY SERVICES



COUNSELLING, Training and Research constitute the "improvement triad" which is necessary for development of industries. The importance of each constituent can be overlooked only at the cost of development itself. Any Programme of industrial development whether catering to small or large scale sectors contains in varying measures these requirements. The one is intimately related to the other and in timespacing of the programmes, the order of precedence among the three could be decided only according to the structural needs of development.

Scarcity of factor endowments like capital, raw materials, know-how, etc. is the hall mark of an underdeveloped economy. Industry assistance programmes are directed not only for providing the development wherewithals but also in effecting the efficiency of existing factor endowments. Better management can by itself release factors of production for further utilisation.

India, among developing countries, is an example of a country which achieved great strides in development by adopting some of the tools of management development. Small Industry development in India forms today an integral part of Industrial development and this sector has assumed vital dimensions. This is because small industry development has been taken as a tool to meet some of the pressing national problems like unemployment especially among the educated, unbalanced economic and industrial growth, etc.

In the beginning stages, the management services were mostly confined to the training of entrepreneur managers. There was a tremendous need for small type factories in view of increased demand for products as a result of developmental activities released through the five year Plans. Hence management improvement in the existing factories were not that much felt as today.

The recession brought to the fore on a massive scale, the incompetent units as against those which were efficient. Small industry sector was affected more adversely than the large scale sector because of the inherent weakness of these type of units in marketing their products. The need therefore arose acutely for expertise in the right type of marketing methods, costing analysis for bringing down the price structure and a variety of other problem areas.

Small industry sector in its sophisticated product-range and production processes has reached a finesse today which it never reached before. Some of the items manufactured are quite precision type, calling for advanced technical know-how and skills. The ancillary type of production brought out the latent capacities of small industrialists and at the same time necessitated production on a scale though small in nature but quite sophisticated in manner. The ancillary components and parts manufactured go straight to the assembly lines of large producers and have to keep up extreme quality control. Price difference being the main criterion in keeping the ancillary orders coming to the unit, production pattern had to be so devised as to effect utmost economies in the cost levels.

In the field of marketing also the small industrialists began feeling the necessity to acquire techniques for "better sale". No longer was the small industry production confined to local markets requiring basic consumer goods. Small industrial units began feeding more and more of regional and national markets. This means refined market layouts and still refined marketing techniques. The Small industry sector widened its horizon recently to cover international markets also. The export potential has opened up larger avenues of small industry production. All these brought out changes in the very entrepreneurial outlook of the small industrialists. The "catch-as-catch-on" attitude was no longer trusted and hence they increasingly turned to a scientific treatment of the ills of the unit.

The management programme of the SSIDO which was confined very much to training, entered the field of consultancy by the middle of this decade. Ever since, it has acquired more and more vitality in terms of quantity as well as quality. In the last three years alone, 15581 units were actively assisted in solving their management problems.

Government of India having adopted a vigorous programme towards industrialisation, considered that small industry element of the programme as the one having more social contents and which will ensure set goals of national development in certain respects. Whatever may be the incentives and encouragements for starting small industry and to take up the challenging career of entrepreneurships, the most attractive and enchanting one is the very existence of a flourishing unit. In terms of demonstrative effect, the failure of a unit brings in a chain reaction on not only existing units but on many other onlookers who intend to get into this career. Hence better management to avoid failures has been taken as a very important element of the developmental strategy.

In the beginning, the SSIDO was giving management advice on problems relating to selection of appropriate lines of manufacture, machinery lay out, cost accounting, budgeting, marketing etc. Those were quite simple in nature also. Subsequently the service took up counselling in more depth and began catering to the critical areas of complicated problems. This involved expertise of an all-embracing nature, covering such fields like financial management material control, production, planning, plant layout, organizational structure, market layout, etc. Today, the SSIDO has 73 experts who look after various management problems. For technical and economic assessments, analysis, suggestions, etc., this service is supported by about 700 experts who belong to different trades and categories of know-how. This service is today rendered through a net work of 16 Institutes, 7 Branch Institutes and 55 Extension Centres which are situated throughout the length and breadth of the country. Consultancy is provided not only at the Institute and Extension Centres, but also at the factory premises and on the spot. In very complicated cases, services of professionals from outside agencies concerned with small industry development are also made use of.

It is not true to say that all small scale units require management counselling on various fields in a continuous manner. There are some at the lower ebb so to say who do not feel the necessity to adopt the type of management techniques which require management consultancy. At the higher levels of the rung there are small units who possess required expertise with them and thus, can locate and find remedies for their management ills. An important problem with the small industrialists is their very attitude which is unsusceptible for scientific analysis and methods. They are prone to take things as they are. Hence it is said that these small units produce but without productivity. Of late there has been a perceptible change in outlook on account of circumstances explained earlier.

There are, no doubt, a number of small units who feel the need for management guidance because unlike their large scale counterparts they do not have necessary expertise to look into these needs. Even in case they have some expertise, they lack in others. And in most of the cases, it is beyond their means either to employ required personnel or seek the help of professionals. The very scale of production does not justify such expenditure.

Small Industry, according to the Government of of India's definition, is a unit with a fixed capital not exceeding Rs. 7.5 lakhs (except in the case of ancillary units). This definition however, is not adequate for management purposes. For management purposes, the small industry may be identified structurally as being an organization without any delegation of responsibility, having no specialist jobs; managed on a one man scale or at the most having one or more subordinates capable of taking his place. The characteristics of the owner-manager of such a unit are :

(1) usually a practical man unaccustomed to abstract thinking and not particularly well informed about management;
(2) absorbed in day-to-day business and not having very much time for reflection;
(3) combining a number of different jobs belonging to more than one level;
(4) making up in technical efficiency for weakness in marketing or vice versa, but rarely making up for managerial weakness.

Such a small unit is in obvious need of Management Counselling, but the manager of this unit is generally blind to this as he is closely associated with his day-to-day problems and is often unable to discern opporunities for improvement or dangers on the way. Even when he is aware of the counselling needs, he may not take advantage thereof for fear of revealing his secrets, and as asking for help may be interpreted by his colleagues as an admission of failure.

Apart from the characteristics of the owner manager just now mentioned, there are others which belong to the small scale unit rather than the entrepreneur. These are due to scarcity in inputs like finance, raw materials, etc. which call for economic and efficient utilisation of these scarce resources.

Different methods of management counselling could be classified as under:

(1) Individual unit counselling;
(2) Homogenous group counselling;
(3) Heterogenous group counselling;
(4) Self-organising and self managing groups;
(5) Top Counselling.

Individual counselling is done in the case of individual units while in the case of homogenous counselling a particular industry is covered. Hetrogenous counselling takes into account a common problem or aspect of study concerning a variety of industries. When working groups of employees under the guidance of a management consultant analyse, study and find out solutions making use of expertise of each participant for common good, it comes under the fourth group. The originality of top counselling is that at regional level they systematically associate large firms so that advanced expertise is made use of. In the case of ancillary production in the small scale sector, this type of counselling often takes place.

The SSIDO does all these types of counselling under the three main categories namely :

(1) Problem-oriented Consultancy;
(2) Integrated Plant Studies;
(3) Open House Discussions and Seminars;

### (1) *Problem Oriented Consultancy*

Management consultancy service under this pattern is rendered for solving the specific problems faced by the industrialists at a particular time. This type of consultancy service is relevant to a situation where problem is fairly straightaway and is known to manager and expected as such by a consultant. Consultancy in this form is rendered in one of the two ways. Firstly, the officers of this Organization visit the units and render advice on particular technical managerial problems relating to production, marketing and finance. Secondly, the small industrialists also visit the Small Industries Service Institute for seeking the advice on matters like setting up new units, expansion of existing units, Commercial and Labour Laws and Finance etc.

During 1967-68, 1968-69 & 1969-70, 4752, 5808 & 5201 enterprise consultancies respectively were offered both in the Institute as well as at the factory premises.

### (2) *Integrated Plant Studies*

The foremost object of the Inplant Study conducted by the SSIDO has been :

(1) To educate the Small Industrialists about the actual state of affairs in the units with data and relevant information and focus their attention on key problems of their unit;
(2) To analyse each problem scientifically on the basis of available data ;
(3) To make suitable recommendations for eliminating weaknesses in the managerial and technical fields; and

(4) To help them in implementing these suggestions as a follow up programme.

Thus these studies have been aiming at improving the processes, designs and organisational structure with a view to minimising costs and maximising productivity, production and profits.

The second objective has been the training of the officers of SSIDO in this method of consultancy and giving them exercises in coordinated group efforts by integrating training with the consultancy.

### Methodology

Under this form i.e. consultancy work of more intensive nature, a particular small unit is selected for detailed analysis of its problems. A group of officers specialising in various aspects of management and engineering visit the unit for a thorough analysis of all its problems, and undertake studies relating to production, finance, costing, marketing etc. The efforts of the group are so co-ordinated that one aspect is not viewed in isolation from other aspects. This group approach enables the officers to obtain best results in a given plant situation. The group plans and conducts detailed study of lay-out, various processes, product designs, plant maintenance, etc. including the financial and marketing aspects of the unit. After the study has been carried out, a report is prepared and presented to the management. This report embodies a comprehensive analysis of all the areas studied by the team. It also contains recommendations relating to the technical, managerial and economic problems faced by the unit and suggestions for making the unit fully competitive. Follow up action is also initiated and the officers make their services avaiable to the unit for implementation of these suggestions, if required.

### Upgrading the Consultancy Service

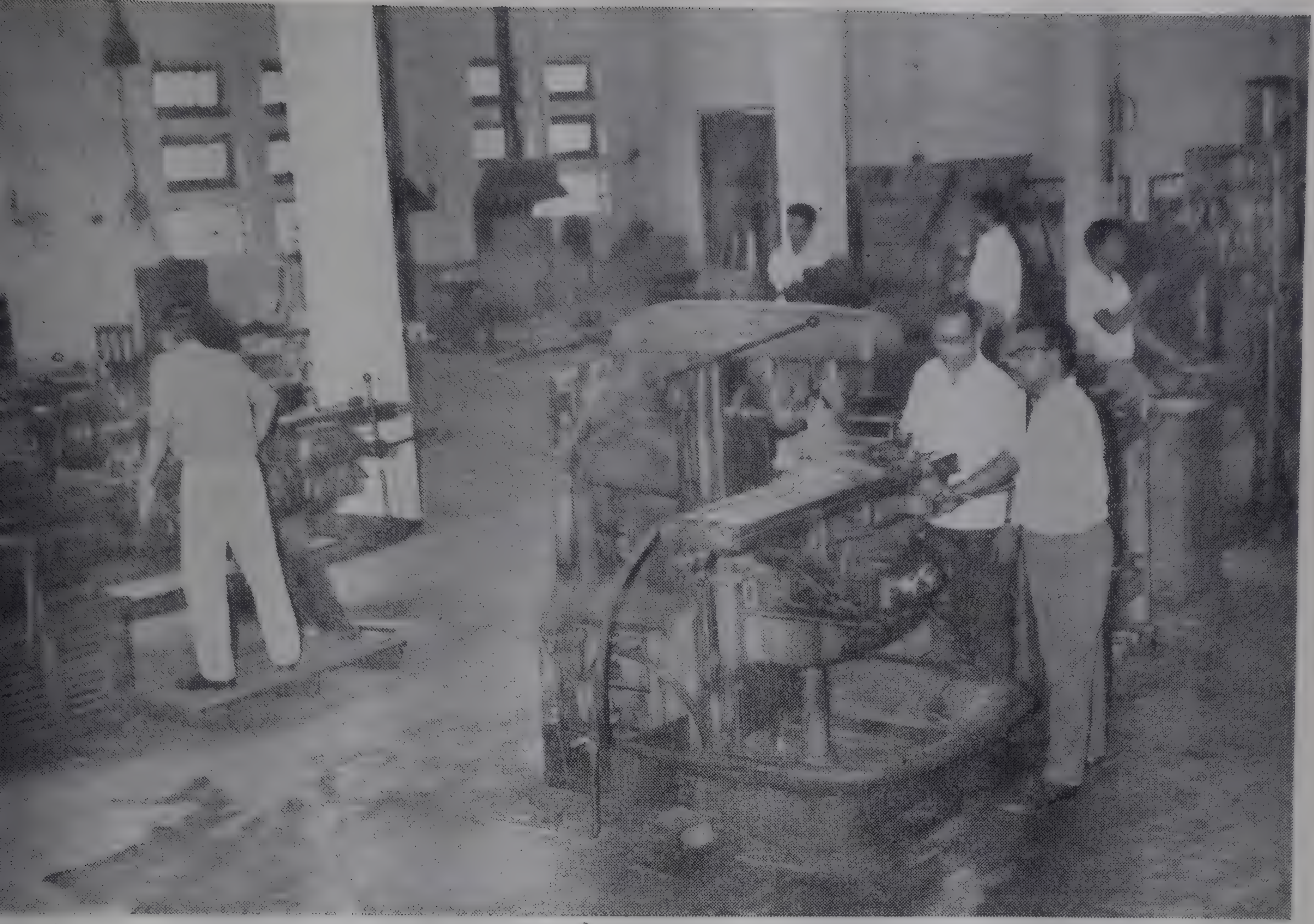
Efforts are being made regularly to make the consultancy service more effective and purposeful. To this effect, from time to time guidance is issued to the S.I.S.I. on various aspects of Intensive Plant Studies in the shape of comments on the reports prepared by the Institutes. It is believed that a lot of detailed instructions on consultancy service will not only lead to an undesirable tight jacket outline but it will also act as a positive limitation on inventiveness of the technical consultants in S.I.S.Is. in the context of individual plant situations. Above all, the officers specialising in techno-managerial consultancy work are provided intensive training in the Small Industry Extension Training Institute, Hyderabad. During their training, emphasis is laid on mastery over the specific tools and techniques of management and not to feed them with "what to do next" in a situation for which they must make their own decisions. The consultants must decide for themselves which specific technique is to be employed when.

1. Besides training at the SIET Institute, a regular programme is in operation whereby suitable officers have been sponsored for training in techno-managerial consultancy in developed countries like Japan, U.S.A., France, U.K. etc. under the assistance programme offered by Asian Productivity Organisation, U.N.I.D.O., Colombo Plan etc. So far this type of training has already been provided to 66 officers and consultants in the SSIDO.

2. The methods of conducting inplant studies involve officers practising their own knowledge and skill in the actual fields. With the help of managers, supervisors, operators where necessary and practicable, they analyse the situations in the form of group efforts and make suitable recommendations in a report to be presented to the management. The teams conducting the plant studies have been examining the situations thoroughly and practically all the aspects—managerial and technological. By and large the calibre of officers, situations in the plants, cooperation of the proprietors/managers/supervisors/operators and facilities at the command of officers have brought considerable benefits to small scale units where such studies have been conducted.

This work is of decisive importance to the small industrialists who are facing industry problems which plague their units. This study enhances the competitiveness of the unit so that it can face competition by its own inherent strength. In view of the usefulness of this service there is an increasing demand for these studies from small Industrialists.

As on 31.3.1970, SSIDO has conducted 276 inplant studies covering various types of industries and units. Statistical digests of (1) Progress of inplant studies conducted by SSIDO (2) Area-wise distribution (3) Industry-wise distribution are appended vide appendices 1,2 & 3 at the end of this discussion. Summaries of three inplant studies concerning four different items and dealt with in different patterns are appended vide appendix 4. The Small Industries Extension Training Institute provides a comprehensive range of training in management counselling and an evaluation study conducted by them on various types



*The Picture above shows personnel of S.S.I.D.O. rendering Management Consultancy at the work floor of a small scale unit.*

of counselling, give interesting findings. These findings are given in appendix 5.

There are a number of agencies from whom small industrialists can seek management counselling. Some of them are listed below :

1. Small Industries Service Institutes.
2. Small Industry Extension Training Institute, Hyderabad.
3. Management Consultants.
4. Management Faculty in Universities.
5. NITIE, Bombay.
6. Productivity Councils.
7. Management Associations.
8. Bankers—financial analysis.
9. Machinery & Equipment Manufacturers & Suppliers. (technical feasibility).
10. Small Industry Associations—(Government policies and programmes, Agencies giving assistance and Counsel).
11. Big manufacturers (to their servicing agencies—Oil companies, Cement manufacturing Co., Machinery distribution etc.)
12. Lawyers—(Legal aspects, form of business, partnership etc.).

(3) *Open House Discussions and Seminars*

With the growth of small industry sector, the demand for services also grew varied and in a more refined manner. The need for open house discussions arose out of the attempts of the organisation to provide comprehensive counselling facilities which belong to the (2), (3) & (4) varieties mentioned above. In view of the vital importance of this promotional technique, this subject has been elaborately dealt with in this souvenir.

Suffice it to say, that the SSIDO has conducted 218 Open House Discussions so far. These Open House Discussions could be categorised into two broad groups, (1) According to the participants (2) According to the subjects dealt with.

### ACCORDING TO THE PARTICIPANTS

(1) Where the participants are purely from one type of industry.

(2) Where the participants are from different types of industries.

(3) Where the participants are from the industry, business and service.

(4) Where the participants are from small industrial units, large establishments and promotional agencies.

(5) Where the participants belong to one type of persons only namely (1) Prospective entrepreneurs (2) Existing entrepreneurs or (3) Executives.

(6) Where the participants are purely from industry as well as from the Governmental agencies concerned with development.

### ACCORDING TO SUBJECTS DEALT WITH

(1) Technical subjects like Tooling, Machine layout, Product designs etc.

(2) Management subjects like cost reduction, inventory control, material planning etc.

(3) Industrial problems relating to marketing, finance, workshed, raw materials etc.

(4) Promotional items like starting small industry, industrial dispersal etc.

(5) Special subjects like ancillary development, export promotion, import substitution etc.

## APPENDIX I

### PROGRESS OF INPLANT STUDIES CONDUCTED BY SSIDO SO FAR

(Up to 1969-70)

| Year | No. of studies |
|---|---|
| 1962-63 | 2 |
| 1963-64 | 11 |
| 1964-65 | 17 |
| 1965-66 | 42 |
| 1966-67 | 35 |
| 1967-68 | 69 |
| 1968-69 | 43 |
| 1969-70 | 57 |
| | 276 |

## APPENDIX II

## AREA-WISE DISTRIBUTION

### NUMBER OF INPLANT STUDIES CONDUCTED INSTITUTEWISE

(Up to 1968-69)

| S. No. | Name of Institute | No. of studies. |
|---|---|---|
| 1. | Hyderabad | 42 |
| 2. | Trichur | 38 |
| 3. | Madras | 30 |
| 4. | Bangalore | 23 |
| 5. | Patna | 19 |
| 6. | Calcutta | 15 |
| 7. | Bombay | 13 |
| 8. | Cuttack | 12 |
| 9. | Jaipur | 12 |
| 10. | Ahmedabad | 10 |
| 11. | Kanpur | 8 |
| 12. | New Delhi | 8 |
| 13. | Indore | 7 |
| 14. | Goa | 7 |
| 15. | Ludhiana | 4 |
| 16. | Gauhati | 4 |
| 17. | Srinagar | 2 |
| | Total | 254 |

## APPENDIX III

### INDUSTRY-WISE DISTRIBUTION OF THE UNITS WHERE INTEGRATED PLANT STUDIES HAD BEEN CONDUCTED

(Up to 1968-69)

| S. No. | Name of the Industry | No. of studies |
|---|---|---|
| 1. | General Engineering | 132 |
| 2. | Foundry | 19 |
| 3. | Electrical Engineering | 10 |
| 4. | Ceramics | 15 |
| 5. | Chemical | 25 |
| 6. | Leather & Footwear | 15 |
| 7. | Wood Working | 11 |
| 8. | Food & Fruit Preservation | 7 |
| 9. | Miscellaneous | 20 |
| | | 254 |

## APPENDIX IV

### INPLANT STUDY REPORTS—PROBLEMS AND SOLUTIONS

### UNIT A

**Background Data**

This unit is manufacturing aluminium alloy pistons for internal combustion engines. The unit is a partnership concern and was established in the year 1962. It employs 15 workers.

The team visited the unit and decided to make a detailed study of the following questions :

1. Why an excessive machining allowance is provided in the casting. How best this

excess allowance may be reduced to minimum, to lower the consumption of raw material, thereby reduction of cost of the product can be obtained.

2. Why are some works given as job work ?
3. Why the concern manufactures number of items and does not undertake any standard item for production ? Would it be advisable to continue the present procedure, etc. ?
4. How are the prices of the product fixed ?
5. Why aluminium scraps are purchased instead of ingots ?
6. Why does the party mainly depend on few dealers for sales ?
7. What would be the future market trend ?

### Methodology

The techno-time study and multiple activity chart was prepared in foundry. Work sampling and time study were carried out in machine shop. Besides this, the percentage of machining allowance for rough castings was also determined. The sale figures of different varieties of pistons were collected to locate the fast movement items and to advise to manufacture these on production lines. Besides, market study was also made.

### Suggestion for Manufacturing Certain Items in Production

Alloy piston is a fast moving item. Hence it is suggested that this should be taken up in production line, in order to reduce the manufacturing cost and consumption of raw material. The product can be standardised and marketed with assurance to customers.

### Method Improvement

(1) It has been observed that the piston ring slots are grooved in a single point tool. Thus, more amount of time is wasted in forming each slot after unnecessary checking of dimensional accuracy. As the material is aluminium, it is suggested that the grooves can be formed by one cut, by using a form tool, thereby much of the non-productive time can be saved. The dimensional accuracy of the product will be maintained and standardised by using form tools.

(2) Some of the simple operations are done individually, thereby the non-productive setting time occurs in each operation. If some of the operations are combined, setting time in each operation can be saved. For example (i) centering and rough facing are done individually in different setting but these can be done by rough facing the face by a facing tool fixed in the tool post after centering; (ii) the drilling and boring of gudgeon pins is done in different operations. But these two operations can be combined.

### Lay-out

An alteration in lay-out to achieve productivity by avoiding unnecessary movement of material has been suggested.

With the shift of the office to another rented building, the available space can be utilised for installing the two lathes.

The present lay-out reveals the movement of material from foundry to machine shop. But if two entrances are made, the movement of material can be reduced to 50%. The provision of two entrances will also facilitate the management for easy supervision.

The following is the financial data of the unit :

| | SY 2019 | SY 2020 | SY 2021 | SY2022 |
|---|---|---|---|---|
| 1. Sales Working Capital | 3.1% | 2.3% | 3.1% | 3.4% |
| 2. Inventory Working | 26% | 19.8% | 18% | 17% |
| 3. Cost of goods sold Inventory | 1.37% | 1.14% | 1.74% | 2.3% |
| 4. Average collection period (days) | 61 | 78 | 60 | 55 |

Meaning of these ratios is——

(1) NET SALES TO WORKING CAPITAL

The trend is favourable here, but there is slackness in the year SY 2020. As a general rule for an established manufacturing unit the ratio will be 4 to 6%. The lower ratio will indicate the working capital as not utilised properly. Working capital is the difference between current assets and current liabilities. Current liabilities include accounts payable and the short-term loan.

(2) INVENTORY VS. WORKING CAPITAL

The trend is quite favourable and the ratio should not be more than 50% in this type of industry.

(3) INVENTORY-TURNOVER RATIO

There is a favourable trend except in the year SY 2020. The turnover is increasing, which indicates there is gradual increase in demand for the product. The turnover may be increased further also.

(4) AVERAGE COLLECTION PERIOD

This is calculated by days ×Receivables (trade debtors and other debtors). in a period (365)

Here, a favourable trend can be seen. The average collection period is decreasing. This is healthy sign of the concern. At present, the selling term and payment is 45 days. So the maximum collection period may be about 56 days i.e. 1½ of the term condition. In the year SY 2020 the condition was favourable. The company has to maintain this ratio.

*Work Sampling*—It has been noted that the average effective utilisation of the machine is about 45 to 50%. Out of 3000 snap readings, the utilisation and the non-utilisation of machinery has been calculated, which are as under :

*Sampling Snap Reading Statement*

| S. No. | Description | Working | Non-Working |
|---|---|---|---|
| 1. | Drill machine 1″ cap. | 33.5% | 65.5% |
| 2. | Lathe—Swastik 4½′ No. 1. | 44.5% | 55.5% |
| 3. | Lathe-Anil 2½′ No. 2. | 53.5% | 46.5% |
| 4. | Lathe—Kirloskar 4½′ No. 3. | 50% | 50% |
| 5. | Lathe—Kirloskar 4½′ No. 4. | 43.5% | 46.5% |
| 6. | Cylindrical grinder No. 8. | 70% | 30% |
| 7. | Lathe—Anil 3½′ No. 5. | 50.5% | 49.5% |
| 8. | Lathe—Nanda 8′—6″ No. 6. | 50% | 50% |
| 9. | Shaping machine. | 8% | 92% |

From the above statement, it has been found that the non-utilisation of machinery ranges from 30% to 92%. The utilisation of the cylindrical grinder is maximum while the minimum utilised one is the shaping machine. It is suggested that the shaping machine as well as other machinery be utilised to the extent of 70% by special supervision and arranging tools and equipments as per suggestions in the cost study.

**Marketing System**

The study on marketing system of the unit reveals the following observation :

(1) A variety of products are manufactured as per order presuming more contribution from such items than the regular fast moving items.

(2) The production is scheduled on the basis of orders received from customers.

(3) The total production is shared equally between a customer in Madras and jointly by customers in Maharashtra and Gujarat.

A revision in pricing policy is sought as the present prices are much less with the standard manufacturers.

**Suggestions : Product Policy**

Though the unit is technically competent to manufacture any type of pistons, it is advisable not to undertake small orders even if their contribution is more. The different varieties of product cause low efficiency in the working of unit and the over-all turn over is reduced.

**Sales Fore-casting**

There is no fixed production programme which leads to unplanned and unscheduled work causing low productivity.

**Sales Promotion**

Three-fourth of the total production is mainly consumed by two dealers in Madras and Bombay. As the competition is increasing from large scale, apart from small scale units, it is suggested that the company should not depend upon two customers only. Periodical advertisement would be helpful in establishing other distribution channels also.

**Channel of Distribution**

As stated above, there is no proper channel of distribution except that the products are manufactured and supplied after receiving orders directly from the customers. As the demand and the competition are increasing, the unit should initiate for arranging a proper channel of distribution which will pay in the long run.

So it is suggested that some experienced salesmen may be appointed at important places for canvassing orders from that area. The salesmen may be offered some special incentive. If the results are found encouraging, few dealers/agents may be appointed in that area to have a stable market for the product.

**Pricing Policy**

It is found that the pricing of the product is done on the basis of other manufacturer's selling price. Comparing with other small and large scale industries manufacturing similar items in the country, the selling price of some products is found low. So it is suggested a revision in pricing of product must be made as per the actual costs explained in 'Cost Study'.

### UNIT B

**Background Data**

The unit is manufacturing match boxes and is located in Northern India. The unit is at present owned by the State Government and is producing goods worth Rs. 4 to 4.5 lakhs per year.

*Problem 1*

On examining the logs it was found that the logs are of varying lengths and girths. The logs which have smaller girth account for higher wastage whereas the logs with bigger girth have less wastage. Besides, most of the logs have multiple knots which also account for lot of wastage. It was revealed that popular wood is more suitable for match industry because it is comparatively soft to peel as well as it contains very few knots. This means that the wastage would be very much less if popular wood is used instead of willow wood that is being used at present. Since the size of the cutter of the peeling machine is 2′—3″ the logs should be of this length or the multiple thereof. Logs having disproportionate lengths would account for larger wastage at first operation i.e. at sawing.

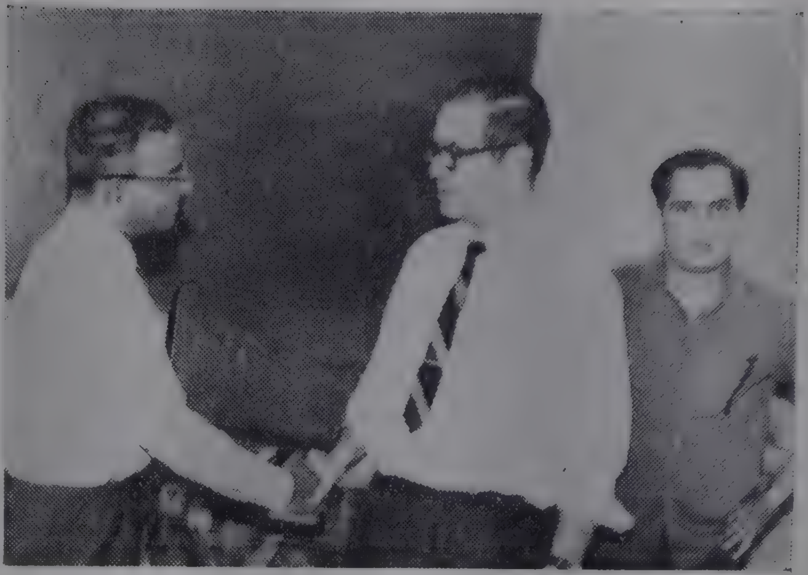
*Solution 1*

It is recommended that the logs of popular wood instead of willow of average 50″ girth and of 2′—3″ length or multiple thereof should be purchased.

As the logs do not contain proper amount of moisture to enable the peeling and chopping machines to function properly, it is recommended that the logs should be fully soaked for a number of days i.e. for a month in tanks and they should be periodically overturned. The logs which are immersed in the tanks first, should be taken out first i.e. first in first out.

*Problem 2*

Presently the logs are being transported from the tanks to cross-cut saw by labourers who are also engaged for working on the cross-cut saw. Till the logs are transported in sufficient numbers the cross-cut saw machine remains idle. There is no constant flow of material from the tanks to the cross-cut saw and this machine does not work throughout the day i.e. not more than 27.7 per cent of the total working hours available, thereby rendering it idle for nearly 3/4th of the total available working hours. The reason for not fully utilising the capacity of this machine i.e. cross-cut saw is that other sections are unable to lift the production given by this machine. If we decide to increase daily production to 430 gross or more as recommended subsequently the cross-cut saw shall have to be engaged for twice the present time. Besides, it was also observed that for adjusting the logs under the cross-cut saw the logs are lifted manually. It results in unnecessary human fatigue and wastage of time.



*Lectures and demonstrations help the officers to keep themselves informed of the latest developments so that they may serve small industrialists more efficiently. Picture shows Dr. Shelton M. Atlas of Brons University, New York being received by the Director, SISI, Bangalore. Dr. Atlas gave a lecture-cum-demonstration on new types of "plastics" developed in U.S.A.*

*Solution 2*

(1) A narrow gauge rail may be laid to connect the soaking tanks and the cross-cut saw so that the logs may be transported from the tanks to the machines on trolleys. This will reduce the human labour as well as keep the cross-cut saw fully engaged.

(2) An overhead crane with a chain pulley arrangement may be installed in order to minimise the human labour and reduce the time for adjusting logs for sawing.

**Adjustment of Scrubbing Tool**

*Problem 3*

It has been observed that in the veneer peeling machine for inner and outer boxes, the cutting tools are not putting deep impression on the veneers. This results in lot of wastage of veneer sorting section as well as in subsequent operations. At the sorting section the wastage is between 75 to 80% and in subsequent operations conducted in the inner and outer box making section, there is further wastage of 30 per cent because of defective veneers passed out of sorting section. This not only involves wastage of time of these machines but also involves wastage of raw material such as wood, paper and glue, resulting in overall reduction of production at this stage. It was found that the centres of the veneer peeling machine are not in order. They are blunt at the ends. As a result, when a log is fixed between the centres its central axis does not come parallel to the cutting tool. Due to this the impression on the veneers is not uniform. Further, it was observed that the cutting tool is not changed before 3 or 4 days, during which the edges of the tool get blunt and, therefore, the impressions on the veneers are not quite deep. As per the statement of the Management there is no separate arrangement for setting up the cutting frame. The machine operator mostly does this job. Besides, the Management considers that the setting up time of this machine being 1 to 2 hours minimum, it would not be worthwhile as well as convenient to change the cutting tools so often. The team does not agree with this contention of the Management because it is resulting in defective production and consequent wastage of raw materials and time.

*Solution 3*

It is recommended that the new centres may be made out of alloy steel, and should be grounded and hardened. They should have atleast two sets of spare centres for replacement. The ground spindle should be mounted between the two centres and before the tool set is finally fixed, it should be aligned along the axis of the spindle. In addition, ball bearings of the machine must be changed.

It is further suggested that spare cutters, properly arranged and sharpened, may be kept in readiness to replace the defective ones in order to save time. In order to achieve better impressions on the veneers, the cutting frame must be changed every 24 hours.

### Splint Veneer Peeling Machine and Chopping Machine

*Problem 4*

The position of these two machines was also found to be similar to that of veneer peeling machine. In the case of chopping machine, the arrangement for balancing the load at the back was not functioning properly as it gets loosened after sometime and results in chopping splints of uneven thicknesses.

*Solution 4*

It is recommended that in case of the splint peeling machine the centres and the cutting tools may be given the same treatment as has been recommended for veneer peeling machine.

It is recommended that the balancing load may be properly fixed up and tightened in such a way that it does not loosen beyond the required limits.

### Veneer Sorting Section

*Problem 5*

It was observed that the sorters are not performing their function as they should. Consequently the defective pieces are allowed to pass to inner and outer box making machines where they get stuck up in the machine and obstruct free flow of work.

*Solution 5*

This section requires intensive training for sorters, greater proficiency on the part of the workers and greater vigilance by the supervisor staff, in order to reduce the wastage of veneers at this stage. Such workers, as have defective eye sight, may be changed over to some other work within the factory where concentration of eyesight is not required to the extent as in this section.

### Inner and Outer Box Making Section

*Problem 6*

The first problem observed was that the defective veneers get stuck up in the machines and till it is removed by the operator a chain of defective boxes come out. It happens inspite of second sorting of veneers by the operators before feeding into the machines. The reason for this is, firstly the defective sorting at the sorting section, secondly, the machine operator is not quite vigilant. If the stuck-up veneer is removed immediately from the machine it will not create obstruction for the pieces following it.

*Solution 6*

It is recommended that the workers should be instructed to be more careful and, as soon as any veneer is found to be stuck up in the machine it should be removed immediately.

### Frame Filling

*Problem 7*

The frame filling machines are automatic machines. The splints through the holders get into the splint frames which are then taken out for subsequent processes like waxing and for the application of tip composition material. During the process, it was observed that while the splints pass through the holders into the splint frame some additional splints get stuck up in the holders. On further examination it was found that this is due to the fact that holder tubes are larger than the size of the splints. At the time of purchasing these machines the size of the splint was longer than that of the present one. This is why some space is left unfilled by the present splint when passing through the holders and allows additional splints to get stuck up. This results in wastage of time on the part of the operator who has to take out these extra splints before the final filling of the frame.

*Solution 7*

It is recommended that the quality of the splints may be checked at the peeling and chopping section. Besides, the perforated brass plates in the frames and the worn-out metallic tubes underneath may be replaced with good ones so as to avoid doubling of splints in the holes.

### Tip Composition Applicating Machine

*Problem 8*

It was found that while the frame is put on the tank containing the tip composition and is pressed against it many of the sticks are left held up in the emulsion itself. The operator has to pick out the sticks one by one before he can place another frame for dipping. Many of them remain loose and, therefore, release the splints while dipping in the tip composition tank.

*Solution 8*

It is suggested that Government Joinery Mill, Pampore, may be asked to supply sticks of proper grooves.

### Financial & Cost Accounting

*Problem 9*

The unit is maintaining financial records but this function has been centralised at the headquarters (Board Office) where the cost accounting system is maintained for all the industrial units coming under State Government. The Accounts Section is maintaining their combined accounts. Although the financial accounts are recorded and maintained satisfactorily but it is difficult to find immediately from the record exact working of each one of the units separately.

*Solution 9*

It is suggested that :—

(1) The accounts of the two units be separated immediately;

(2) The financial data may be recorded in such a way that it may present a more meaningful picture of the operations;

(3) The cost accounting may be immediately decentralised and cost data may be maintained at the unit itself so that cost determination may be possible within the unit. This will not only facilitate proper costing of the product but would also permit proper control of the various elements of costing at various stages.

## UNIT C

### Background Data

Here is a typical small scale unit grown to its present size from a job workshop to a production unit, manufacturing precision items such as collets. The unit was started in 1959 as a job work unit. Gradually, its major activities crystallised into manufacture of collets and allied items. The firm with a fixed capital investment of Rs. 3,96,502 had an annual turnover of Rs. 4,80,670 during 1965-66 which is almost double their 1964-65 production of Rs.2,72,740. The firm also produces carbide-tipped tool grinders and small pumps.

Their average monthly production break-up (in terms of value) is as follows :

| | |
|---|---|
| Collets and allied items .. .. | 85% |
| Grinders and pumps and flour mills .. | 10% |
| Job work .. .. | 5% |

The demand for collets for replacement or as spares, is governed by the type of machine tools used in the country. Unfortunately, as the collets used by the various machine tool manufacturers are not standardised, the replacement orders for collets, in general, are for small quantities which is uneconomical to produce. This is a major obstacle in effective production planning and control to reduce costs.

### Production Planning & Control

*Problem 1*

LOADING & OPERATINC MACHINES

(i) As and when an order is received a work order is prepared and released to the shop irrespective of the size of the order and period of delivery. Each order constitutes a batch for production-some batches consisting of one or two pieces. Obviously, disadvantages of such planning needs no emphasis.

(ii) The operator on the machine, once he completes a particular job, involving, say, one hour's work, does not know what his next job is going to be. He contacts the supervisor, who takes on-the-spot decision of what the next job is to be or runs to the draughtsman preparing work orders or Works Manager to find out what the next priority pending job is.

(iii) The team observed that 6 different jobs were set on the turret lathe in one shift involving waste of setting time and also defeating the very purpose of purchasing the production machine costing Rs. 22,546. On HMT machine the setting time is 13.43% and on tool milling machine 25.29% of working hours.

(iv) To cite another example of improper planning, first operation on HMT collet was done on 20-11-65 and the subsequent operation was done only on 26-11-65. Again, the job had to wait till 30-11-65 for the next operation.

(v) An analysis of the production figures from August '65 to January '66 revealed that the average stock in process of material varies from 25 to 30% of monthly production. If the processing time from raw material to finished products can be reduced by planned machine loading, a better return can be achieved within the limited financial resources.

The management queried how to plan for economic lot sizes if orders are for small quantities and that too far 200 different types of collets?

An analysis of the last six months' orders received revealed that for 11 items there is fairly regular demand. Based on the factual statistical data, the following sizes of batches are suggested for production:

| | | | |
|---|---|---|---|
| 1. | I.S.O. 40 collets | 60 | pieces/month |
| 2. | HMT. collet | 60 | do. |
| 3. | T-35 collet | 30 | do. |
| 4. | I.S.O. 40 reduction socket | 20 | do. |
| 5. | Ward 2-C collet | 20 | do. |
| 6. | Skoda A-40 Feed finger | 20 | do. |
| 7. | Skoda A-20 Feed finger | 20 | do. |
| 8. | Skoda A-20 collet | 20 | do. |
| 9. | Skoda A-40 collet | 20 | do. |
| 10. | Ward 3-C collet | 20 | do. |
| 11. | I.S.O. 50 reduction sleeve | 20 | do. |

*Solution No. 1*

How to load the jobs on the respective machine was given in accordance with Gantt Chart. This will help the management to load machines in a planned scientific manner instead of loading machines indiscriminately, without knowing what the next job is going to be.

This chart allows sufficient flexibility for loading priority jobs as well as routine orders for small quantities.

If machines are loaded as suggested in the Gantt Chart, the reduction in production time for 1 year for the 11 items of collets will be as under.

The time taken for various operations are worked out based mainly on the data collected wherever available and partly by estimation.

| | | | |
|---|---|---|---|
| 1. | Turning Section | .. 158 | hours. |
| 2. | Milling Section | .. 187 | do. |
| 3. | Hacksaw | .. 285 | do. |
| 4. | Grinding Section | .. 105 | do. |
| 5. | Cleaning | .. 14 | do. |
| 6. | Inspection | .. 7 | do. |
| 7. | Bell mouth expanding | .. 8 | do. |
| 8. | Muffle furnace | .. 9¼ | do. |
| 9. | Salt bath | .. 32 | do. |
| 10. | Open hearth | .. 71 | do. |

(iv) At present, to ascertain how long a particular job has taken to travel from raw material stage to finished product stage is not possible. Hence, for purposes of control it is suggested that the existing pink card (Manufacturing card) should follow the work order from raw material to finished store.

Similarly, a machine card, as detailed below, is suggested which will help the management to control and analyse the performance of all production machines.

Name of the Machine Card No.

| Date No. | W.O. No. | Time started | Time completed | Qty. | Rejections | Remarks |
|---|---|---|---|---|---|---|
| | | | | | | |

**Inventory Control**

*Problem 2*

Apart from the duplication of efforts regarding inventory control, the existing system does not provide for the issue of materials against Material Requisitions or Bill of Materials, nor for the Issue Pricing. With the result, it is not possible to ascertain the cost of materials and tools issued for different jobs.

The store ledger at present being maintained does not give quantity and value balance after each transaction is recorded. It is not, therefore, posible to ascertain the quantity and value of raw materials for purposes of cost control and production control, at any given interval of time.

*Solution* 2

1. The Deputy General Manager will have full responsibility for Material Control. He may be assisted by the existing two Storekeepers whose functions are demarcated as under.

One of the Store keepers will be incharge of purchased materials, tools and other stores. He will look after the work connected with the material procurement, purchase, pre-receipt inspection, custody and maintenance, issue of production and accounting thereof. He will function under the direct control of the Deputy General Manager.

The second store keeper will look after the receipt, custody and up-keep, despatch and accounting of finished goods, functioning directly under the Office Manager.

2. Major items of stores like bar-stock and other high-value items should not be issued except against a Material Requisition or a Bill of Materials and these should invariably be priced by the store keeper incharge of purchased materials.

3. The following few records are suggested :

| | *Remarks* |
|---|---|
| (i) Store Ledger Card for purchased materials, showing quantity and value (The available Cardex Equipment may used for this purpose) | In lieu of the existing two registers, viz.<br>(a) Stores Purchase Cost Register<br>(b) Stores Ledger Account |
| (ii) Material Requisition and Bill of Materials | — |
| (iii) Material Transfer Note | To record transfer of material originally debited to one work order but requiring debit to another. |
| (iv) Monthly Abstract of work order-wise materials issued to production | To facilitate cost accounting |

### Tool Planning

*Problem* 3

On a particular day, it was observed that during a period of 80 minutes from 8.10 a.m. to 9.30 a.m. operators from the machine shop went 32 times to grind tools involving stoppage of machines for a total time of 1.75 man-hours. On an average, it may safely be assumed that per shift 8 man-hours are being spent on grinding tools.

It was observed that a slitting saw used on milling machine was ground on the ordinary pedestal grinder by the operator (tool and cutter grinder though available, was not used).

*Small industrialists being given guidance on management problems at the SISI, Cuttack.*

Subsequently when it was used on the machine, the saw broke due to improper grinding of cutting teeth with the result there was loss of machine hours and tools.

*Solution* 3

Instead of allowing all the machine operators to grind the tools, with or without skill, involving 8 man-hours per day which naturally implies loss of 8 machine-hours also, it would be advantageous if one trained tool attendant does this work.

The tool and cutter grinder is effectively utilised only 46.24%, as revealed by work sampling data.

At present, the tool and cutter grinder is used as an internal grinder only. In addition, it should be used for regrinding of tools, drills and cutters, if necessary, during night shift and ground tools should be made available during the day shift.

*Problem* 4

It was seen that proper tools were not selected and several alterations were made on tools (for example, threading tools, ground or converted into turning tools as the required tools will not be readily available).

*Solution* 4

For each type of job, standard tools must be earmarked and mentioned in the process card.

For centre lathes, separate tool posts fitted with four tools suitable for the job that is planned for the next loading should be provided, so that tool post itself can be exchanged, instead of tools.

*Problem* 5

Drill bits are not ground properly. Hence, the frequent visits to grinder.

*Solution* 5

The tool post grinders may be equipped with twist drill grinding attachment, costing Rs. 50.

*Problem* 6

An analysis of the rejects revealed that instituting a systematic inspection system at every stage of production can substantially reduce the over-all percentage of rejects.

*Solution* 6

1. All components during manufacture should be inspected at every stage.
2. Only after the first piece is inspected, production should start.
3. Random inspection once in 30 minutes or 45 minutes should be instituted.
4. The supervisor or foreman should not be burdened with this work.
5. After each stage of manufacture, the entire batch should move through the central inspection room. This will avoid defective components being carried on to the next stage of operation.
6. As far as possible, inspection section and manufacturing section should be provided with separate inspection instruments.
7. Record of rejects and reasons thereof should be maintained. Periodical analysis of these records will prove valuable to the Management to improve performance.

The following form is suggested :

| Date | Name of component | W.O. No. | Total Qty. | Total No. rejected | Reason |
|---|---|---|---|---|---|
| | | | | | |

8. The loss incurred due to particular operation should be charged on that section for costing purposes.

**Methods Improvement**

*Problem* 7

Operations which can be done in one setting is being carried out in two or three settings.

For example, for T-35 collet, skoda A-40 collet, HMT collet, ward-2 collet, Skoda A-40 feed finger, only facing on first side is done in on-setting.

*Solution* 7

In the same setting, drilling, turning and boring of first side can be done. This suggestion will result in saving of setting time by 116 hours/ year for this group of collets.

Simialrly, the drilling and boring on the Second side of collet can be combined with the facing operation, for T-35 collet, ISO 40 collet, HMT collet and step turning for A-40 feed finger, and A-20 collet.

This will result in saving of 160 hours per year.

*Problem* 8

Operations such as, taper turning, boring step-turning are done on different machines, resulting in waste of setting time.

*Solution* 8

To save setting time, taking the work-load into consideration, it is suggested that specific machines should be earmarked for each work of operations such as taper-turning on "south bend lathe", boring on capstan and turret. If step-grinding on "Paragon" grinder is loaded exclusively, it will save valuable productive time.

*Problem* 9

The setting time on 'O' tool milling machine is 25.29% as per work sampling data.

*Solution* 9

A milling fixture as per drawing for milling slot may be made and used. This fixture will reduce the setting time from 1½ hours to ½ hour. This will result in a net saving of 250 hours/year.

*Problem* 10

Holes on the body of the collets are being drilled in bridgeport tool milling machine.

*Solution* 10

Holes can be drilled in the radial drilling machine available in the workshop with an indexing fixture.

Assuming, the machine hour rate for milling machine is Rs. 6 per hour against Rs. 3 per hour on drilling machine, the saving in cost per annum will be Rs. 900.

*Problem* 11

Expensive tool milling machine costing Rs. 41,045 is being used for slitting of the collet.

*Solution* 11

A special pupose machine costing Rs. 5,000 should be used. This will increase the output and cut the costs based on the difference in machine-hour rates; this will result in saving of Rs. 1,775 per year.

*Problem* 12

The sliding piece of tool holder in the tipped tool grinder is being fitted to suit the slot of the table.

One fitter takes 8 hours per 10 pieces for filing to size.

*Solution* 12

This can be milled in 1 hour on a milling machine.

*Problem* 13

Tool post grinders mounted on pedestal are fitted with tin-plate at the bottom.

*Solution* 13

This plate can be completely eliminated.

*Problem* 14

Copper bars for rotor are cut by hand. The lengths are not equal besides taking too much time.

*Solution* 14

A blanking die may be used.

**Heat Treatment**

*Problem* 15

1. The maximum number of rejects of collets are from the heat treatment section, for example 8 HMT collets which were rejected out of 20 Nos. in work-order No. 66/1/8 were found to be due to improper heat treatment.
2. The main cause of rejections are cracks.
3. There is no record of rejects in the Section.
4. The components to be charged to the cyanide bath are not pre-heated.
5. In salt bath furnace, the salts are not checked for the percentage of cyanide contents. The salts are removed completely after three or four heats. Salts are added to the bath, without any record, reason or rhyme.
6. Specific instructions for heat treatment of each batch are not given to the worker. At present, to obtain the correct hardness, one component in each bath is heated and quenched two or three times for determining the temperature and soaking time.

The operator himself decides about reducing or increasing the temperature or soaking time etc.

7(a) It was observed that inspection for detecting the cracks is done after the costly grinding operation and slitting.

7(b) Lack of proper supervision and inspection. For instance, one ISO-40 collet was rejected after grinding operation though it should have been rejected after heat-treatment, as the crack was visible near the drilled hole on the body.

*Solution* 15

(i) A system of recording the number of pieces heat-treated, rejected with reasons thereof, must be instituted, as detailed in the enclosed card.

A process card as given below may be introduced.

| Name of the component | Qty. | Hardness required | Material | Furnace |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

| Details of operation | | | No. of rejections |
|---|---|---|---|
| Temperature | Soaking time | Quenching | |
| 6 | 7 | 8 | 9 |

This will help the management to analyse the reasons for rejections and take remedial action to exercise proper control.

(ii) The cracks developed may be visible or internal. This defect may be due to the following reasons :

(a) Chemical composition of steel not known and hence wrong heat-treatment process adopted.

(b) Lack of supervision.

In order to overcome the above defects the following checks and controls are suggested :

(a) Inspection of incoming steel and stalking.
(b) Process to be standardised.
(c) Process card to accompany the job.
(d) Proper supervision of the section.

(iii) Only known quality of steel must be purchased as far as possible and stacked properly in a rack with suitable colour markings.

(iv) The process card should be sent along with each batch of components detailing :

(a) The temperature to be maintained.
(b) Soaking time.
(c) Hardness required.
(d) Quenching media.
(e) Annealing temperature.
(f) Buffing.
(g) Bell mouth expanding.

(v) The quenching tank must be provided with tray made out of expanded metal with two hooks on either side to remove the entire batch from the tank instead of removing individually by putting hand.

(vi) The quenching tank must be provided with water circulation for cooling. A cover is also to be provided to avoid dust.

(vii) While starting the salt bath furnace it is better if the burner is heated by oil stove and not by blowing air against the kerosene fire.

(viii) The salt pot has to be rotated for each heat so that the place of heating may be changed.

(ix) The salts are not checked for the percentage of cyanide contents, the salts are removed completely after three or four heats. Salts are added to the bath without any record of any basis.

(x) Due to improper handling of reduction sleeves during heat treatment process, scales are formed on the job and often the jobs are also found to be distorted or bent.

The jobs are removed from salt bath furnace after case-hardening and thrown in a narrow tin container for annealing, allowing them to come into contact with atmospheric air for about 10 minutes before being covered with ash, resulting in scale formation and bents.

These defects can be overcome if the annealing boxes are made as per drawing supplied. The jobs can be hung over the rod 'a' and the ash may be poured.

(xi) The components which are to be charged into cyanide bath are to be preheated, which helps to avoid possible development of cracks.

(xii) The inspections for detecting the cracks are done after grinding and slitting. Instead the collets may be cleaned and buffed in a buffing machine with a fixture for removing the scales and subjected to visual inspection through the magnifying glasses demonstrated during the study. Based on the assumption that 10% are rejected due to heat treatment and considering the previous 6 months production of 12 items in total 1068 nos. 106 collets are assumed to be rejected. It is anticipated to save 93 hours at the rate of 50 mts. of grinding per piece of collet and 2 minutes of slitting per piece.

(xiii) It was observed that the air line only is closed for stopping the salt bath furnace instead of closing both air and oil. This results in oil being wasted by percolating into the blower and pipe line.

(xiv) The tools that are provided are not enough to suit the purpose. Tongs of different size and type, gloves (asbestos), mask etc. which help the workers in operating the furnace must be provided.

**Maintenance**

*Problem* 16

It was observed that systematic preventive maintenance of machinery and equipment is not being carried out.

In fact, it was noticed that maintenance work was undertaken only when there was a break-down-resulting in hasty remedial action and loss of production time.

For instance during the visit the southbend lathe had a breakdown, the ball bearing outer race in the motor housing was rotating instead of inner race. To remedy it, holes were drilled and tapped to provide grub screws to prevent the rotation of outer race. This kind of hasty attention to break-down will spoil even the original equipment. Importance of periodical systematic preventive maintenance needs no emphasis.

*Solution* 16

Such maintenance work can be done on Sundays and other holidays to avoid loss of valuable production time.

**Accounting**

*Problem 17*

The existing system of accounts, whether in relation to labour, materials, machines or other expenses, is designed primarily to meet the statutory obligations expected from industrial employers. A system of cost control is absolutely necessary for the efficient running of the concern in view of the fact the firm not only manufactures a large number of types/sizes of collets but also 3 different types of machinery *viz.* Atta grinder, Tool grinder and Jet pump. The efficient scheduling of these manufacturing operations are further complicated by the fact consumer orders for collets are received in piecemeal quantities unrelated to economic manufacturing batch size.

**Accounting for Labour**

*Solution 17*

In the absence of job/time records reconcilation of hours worked with hours paid for is not possible. Similarly, the total hours worked against a particular work order or by a particular operative is not determinable. This renders comparison with past almost impossible. Moreover, idle time analysis is also rendered difficult.

**Accounting for Materials**

*Problem No. 18*

Although a number of records are maintained in the form of cards/registers and books, basic information regarding the value of materials issued to production or against a particular work order cannot be ascertained, in the absence of 'Material Requisitions' and Issue Pricing. Similarly, physical stock count is necessary to ascertain inventory levels, in the absence of Perpetual Inventory system. As a substitute, however, both the Works Manager and Assistant Manager are maintaining elaborate records to ensure that purchase action is taken in good time.

### Accounting for Expenses

*Problem 19*

As stated earlier, even financial accounts of the firm are only completed at the year end for Balance Sheet and Audit purposes. Expense classification is therefore based on the existing system of financial accounting rather than cost accounting. In the circumstances, estimating and tendering and also product pricing is more of a crude guess. Management is not aware of the profit or loss that results from a particular product or during different production periods.

### A System of Cost Accounting and Cost Control

*Solution for Problems 18 and 19*

It is therefore desirable to have a simple system of Cost Accounting together with a system of built-in cost control to serve as a guide in taking business decisions, whether in manufacturing or in selling. For this purpose, the following records may be maintained.

*Labour Accounting*

1. Daily Time Card (or Daily Job Card) Indicating hours worked by each worker and on each work order.

2. Monthly Summary of hours worked by work orders.

*Material Accounting*

As stated under Inventory Control.

*Accounting for Overheads*

3. Monthly Expense Summary.

4. Machine Card, showing time worked on each work order.

5. Monthly summary of machine-hours expanded on each work order.

6. Overhead Apportionment Statement.

7. Overhead Allocation Statement.

8. Cost Cards.

9. Monthly or Quarterly operating cost statements.

10. Idle Time/Facility Analysis report to Management.

## APPENDIX V

## EVALUATION OF MANAGEMENT COUNSELLING

The individual unit-counselling benefits the units the most. As the manager of the unit is too closely involved in the day-to-day problems of his undertaking, he does not have the opportunity to have an overall view of his business. He also gains conisderable benefits from suggestions on plant layouts, production control and marketing. To the extent that he confides his financial transactions and his labour and organisational problems, he would gain the more. The disadvantages of individual-unit-counselling however, are that it takes more time than the group-counselling.

Group counselling has an advantage in that it costs less and benefits a large number of persons. However, as the discussions are in a large group, one can only give general theories and not specific suggestions. The more heterogeneous the group, the more general are the discussions. It is further noted that in a group discussion session, emphasis is given more to short run problems than to long range objectives or policies of an organisation.

The group-type of counselling, therefore, is limited in its effectiveness. It has fair chances of success in a homogeneous group if one tackles problems pertinent to that specific group.

The Counselling techniques, known as self-organizing and self-managing group and TOP counselling, have shown a high involvement of and large benefits to small industries. These counselling techniques were initially started with support and subsidy from Government agencies. But gradually, the units found the counselling so rewarding that they undertook to finance directly these counselling schemes. These counselling schemes, thereofre, indicated a way out of the high cost of individual counselling and the low benefit to individual unit from group-counselling.

Besides the above forms of counselling, it is also for consideration whether one should restrict counselling to a specific problem posed by a small unit. It is, however, found that when a unit thinks, say, that its problem is higher cost of production, actually it may be due to production in smaller lots, higher rejections, larger inventory, bad marketing policies, etc. Unless, therefore, a general probe in the unit is effected, it is difficult to give counselling in any specific aspect of management at the request of the small industrialists. In fact many private Management

Consultants refuse to deal with specific problem as the Counselling may not meet with the needs of the unit.

### Findings from Management Counselling

Our experience of over 60 plant counsels has highlighted some of the deficiencies inherent in the small industries such as :

1. Lack of proper layout—especially if the plant has grown—as additional equipment is squeezed in the available place.
2. Scant regard for material handling—as the workers are expected to be vehicles of burden.
3. Lack of sequential planning as production is dictated by Customer's pressure.
4. Scant attention to quality maintenance and improvement.
5. Suspicion of marketing channels.
6. Reluctance to pay marketing costs—as these are considered to be superfluous.
7. No proper industrial accounting.
8. Ignorance of costs.
9. Ignorance of credit arrangements.
10. Inflation of over-heads by loading personal expenses.
11. Imbalance of care devoted to production as compared with other sides of business.
12. Gross disregard of workers' welfare which sometimes leads to circumvention of the legal obligations.

Even though the SIET counselling is limited to the production and marketing aspects, with a touch of costing, it goes a long way in improving the productivity of the undertaking and many units have testified that the recommendations of the Group have helped them to increase their production by more than 30 to 50 percent.

If there is mutual confidence between the small industrial units and the management counsellor, the counselling could be more helpful to the unit in that the Consultant could cover the financial, labour and organizational aspects also, and the study can be effected in a shorter time. Nonetheless it must be accepted that individual unit counselling even in the best of circumstances will reqire at least the knowledge of the three main functions viz., production, marketing and finance, and will usually take from one week to 10 days if not more.

Management Counselling is helpful to the extent the unit implements it. Generally, the more enlightened the manager, the more he appreciates the benefits of management Counselling and the more he is to implement the recommendations. It is, therefore, necessary to educate the small industrialists to appreciate management as a specific function so that he will gain more from Management Counselling.

We have been fighting shy of counselling the small industrialists on their factory hygiene, child labour, labour conditions, bloated overheads etc. on the plea that the shy and suspicious small industrialists may not admit us in their premises if we counsel them on these sensitive areas. Whilst accepting fully the obligation as a Management Counsellor not to disclose such findings to outside agencies, I feel, we are doing a disservice to small industrial units by not pointing out these to them.

The catalogue of deficiencies listed above is not representative of all small units. There are some units whose welfare activities, labour relations morale and motivation building are a shining example to all industries. It is also worth pointing that these units are also units with conistently high profits.

In spite of the difficulties in giving Management Counselling to small industries, streneous efforts at all levels are being made to see that more and more small industries take up management counselling because management counselling helps improve the productivity; establishes long range objectives; works out management controls; indicates the guide lines for measureing progress; helps recognise problem spots and areas; and will generally help the small industrialist to switch over from seller's to buyer's market (which will be on them within a short period now that the imports are liberalised). Adequate management counselling will help the small industries sector to meet competition from large industries and ensure that its contribution to the national income will grow.

Management Counselling will have to be thrown open to service industries such as laundries, restaurants, bakeries, retailers, etc., as this is the one sector of industry, which, though it contributes quite a substantial portion to the national income and though it can benefit immensely from management counselling, has been completely negelected till date.

The ultimate aim of management counselling is to improve productivity of small industry as also to give it long range objectives. Penetration of the management counselling idea can be fostered by developing management consciousness amongst the small industrialists through open-house discussions, conferences, seminars, and group counselling; once the industrialist is aware of the benefits from management counselling, he would be in a mood to ask for individual counselling, which, if it is to be successfully

(*Contd. on Page 255*)

# TRAINING SERVICES

OFTEN a promising industrial venture, be it small or big, ends up in a failure because the right type of men are not there to man the enterprise. The dearth of the right type of trained personnel reflects the lack of adequate facilities for training of persons in various types of technical trades and in industrial management. This is one of the major problems faced by under-developed countries. Trained personnel is essential for the factory and the farm as well whatever may be it's size and scale of operation. Any amount of assistance for the development of industries will be of no avail unless the production in and management of industrial enterprises are handled by competent men at every level. The industrial progress achieved by developed countries is in a large measure due to the importance they have attached to systematic training. It is no wonder that as a planning strategy, training is often given the first place.

Training means instruction in a specific skill and involves establishing a desired work pattern or a set of work habits. With the advancement of science and technology, the skills required for their application became more and more multifarious and intricate. The development of these skills is closely linked with the system of general and technical education in a country, more particularly with the the latter. Technical education aims at developing various types of skills by theoretical instruction and practical training. At present there is practically no field in which training can be considered superfluous and no where it is more important than in Industry.

Some of the benefits of industrial training could be summarised as under:

(i) It facilitates the acquisition of specific skills.

(ii) It helps to avoid waste of man hours and material and thereby facilitates reduction of costs.

(iii) It promotes a feeling of security and builds up the morale of the worker.

(iv) It lessens the need for supervision.

(v) It helps to make the best use of available manpower, machines and material and increase productivity.

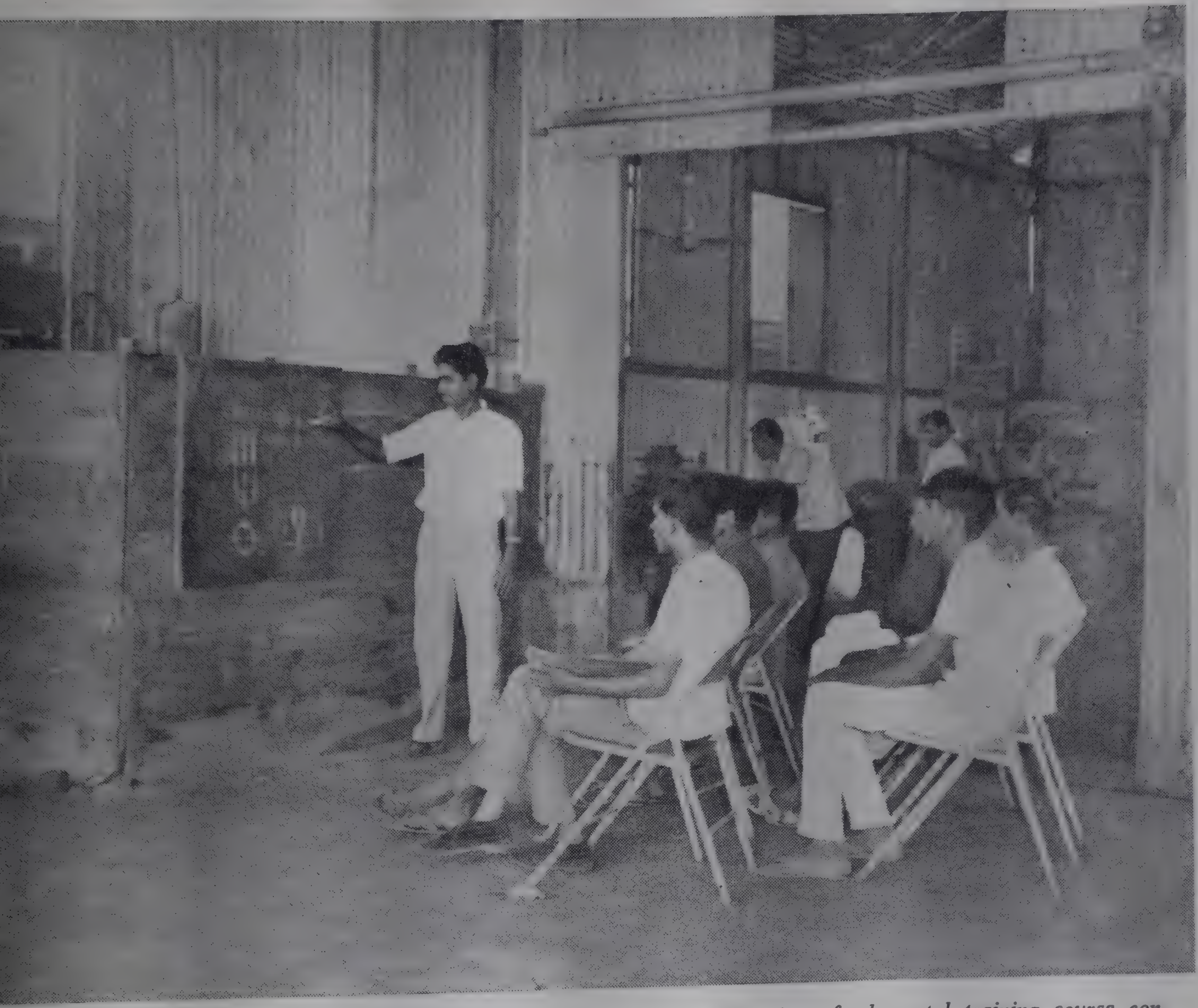
*The SSIDO has taken the challenge to make entrepreneurs out of technically qualified persons who are unemployed, by giving them a comprehensive course of training in industrial entrepreneurship. Picture shows Shri S. K. Wankede, Minister for Finance, Government of Maharashtra inaugurating one such course organised by the SISI, Bombay.*

India embarked upon an ambitious programme of economic reconstruction through a series of five year Plans beginning from 1950-51. In the successive Plans, the planners assessed the man-power requirements and initiated suitable programmes to provide required skills and know-how. Acute shortage of skills and know-how was felt even in the First Plan period. Hence a massive programme to train engineers, technicians and other skilled persons for the various sectors of industry was formulated. The financial outlay provided under the five year Plans on these programmes rose by about 275 per cent between 1951 and 1961. Specific programmes were launched to upgrade and modernise the skills available in rural areas so as to increase the productivity of rural industries.

Economic reconstruction through industrialisation called for trained man-power in gigantic proportions. Hence sustained efforts were made to build up and strengthen the institutions for technical training. As a result, there are today a net-work of Technological Institutes, Institutes for Industrial Training, Regional Institutes in various vocations, State-wise training Institutes and Rural Training Centres, to mention only a few. Besides these, many private industrial organisations and business houses also developed their own training organisations. The Central Government also set up the National Council for Training in vocational trades and the Central Apprenticeship Council to guide, control and direct activities related to training in their respective spheres.

## TRAINING PROGRAMME OF THE SSIDO

The Training Programme of the Small Scale Industries Development Organisation contributed substantially to the development of the small industry sector. A comprehensive programme of training



*Blue-print reading is essential to become a good skilled worker. This is a fundamental training course conducted by all SISIs and Extension Centres for the benefit of the skilled workers of small enterprises. Picture shows blue-print reading class in session at the Extension Centre, Bhawanagar.*

was drawn up so as to upgrade existing skills and to create new skills conducive to efficient production in and sound management of small enterprises.

Some of the typical handicaps of small scale units are:

1. Limited Resources
2. Poor Organisation
3. Inefficient methods of production
4. Lack of technical know-how
5. Ignorance of market conditions
6. High production cost
7. Lack of quality control.

Unlike large industrial enterprises which can afford to hire the services of skilled workers, efficient managers and consultants, the small enterprises with their limited resources have to depend mostly on assistance from the Government in getting their workers trained in production and management techniques. Often the small industrialists have to employ raw hands and train them in their own way and such training is generally found to be inadequate and inappropriate. As a result, labour becomes unproductive and lack of management expertise reflects on the quality and volume of production in such small enterprises.

*Trainers often meet to exchange experiences so as to enrich their knowledge and make the training programme more effective. The picture above shows the training staff of the Industrial Management Training Division of the SISIs of the Northern Region in a Seminar.*

With the growth of the small scale sector, many small enterprises realised that they have to organise their production, management and marketing in the best manner possible in order to survive the competition from products of better quality and lower price. Further, the new and promising avenues of small enterprise like ancillaries, exports, etc. called for efficient organisation of both production and management. Thus, small enterprises felt the need for training in production and management.

The Small Scale Industries Development Organisation took up as one of the main functions of extension work, the training of the technical and managerial personnel of small enterprises. When the SSIDO launched its training programme, the small industry movement was in its infancy. The skill of the workers employed in small enterprises was found to be inadequate and required to be improved. The technical trades covered in the initial stages were, therefore, such basic ones like blacksmithy, carpentry, leather working, machine shop practice, etc. With the growth of small industries the training programmes were geared to meet the new needs of the small industry. Technical training was conducted in such trades like anodising, electroplating on aluminium and plastics, manufacture of scientific glass-ware and neon signs, fabrication of plastics, paper products, etc.

Training in management was originally directed to impart basic managerial skills required to run a small industrial unit like accountancy, elementary

*Practical training in the operation of various machines is an integral part of the technical training programme. Picture shows trainees in carpentry trade being guided by instructors in the Carpentry Workshop in SISI, Madras.*

costing, material handling, production, marketing and financial management. Subsequently advanced type of training in subjects like work-study techniques, financial control, budgeting, cost control, personnel relations, value analysis, elements of linear programming, etc. were taken up. Special courses are also being conducted in entrepreneurship covering such subjects like selection of suitable small enterprise, preparation of project reports, feasibility studies, etc. to make technically qualified persons for establishing small enterprises.

### Spread-out of the Programme

Training Courses are conducted not only for unskilled and skilled workers, but also for supervisors, managers, executives and entrepreneurs.

The staff for imparting training has been considerably strengthened and there are at present 800 technically qualified persons out of which 250 are mechanical engineers, 50 metallurgists, 70 leather and footwear experts, 60 chemical engineers, 40 electrical engineers and 40 glass and ceramic experts.

Specialised fields like metal finishing, fruit and vegetable preservation, lens grinding, electronics refrigeration, etc. are also covered. The management faculty includes experts who have specialised in subjects like work-study, production planning, material control, costing, financial control, marketing including export marketing, etc. While organizing specialised courses, the SSIDO obtains the services of expert personnel in the field from outside the organization also.

Training programmes today cover industries manufacturing items such as measuring instruments, laboratory equipment, glass and ceramic products, electroplating, electronic equipment, chemical items, plastic and rubber products, canned vegetables, and fruits, etc.

Training programmes were initially confined to four major cities in the country and a few centres of industrial concentration. At present the training programmes cover all the states; appropriate training courses are conducted by competent technical staff in all the Small Industries Service Institutes and their Extension Centres and specialised training in Production Centres of the SSIDO throughout the length and breadth of the country.

Regular and ad-hoc courses of technical training are conducted for the benefit of skilled and semi-skilled workers employed in small scale units. The

*The mobile workshops attached to the Institutes visit rural areas to demonstrate to the artisans better technique that could be followed in the basic trades of the village like blacksmithy, carpentry, leather footwear etc. Picture shows demonstrations being conducted by the mobile blacksmithy and footwear workshops.*

trainees are paid a monthly stipend of Rs. 40.00 per head in the case of regular courses. They should have the prescribed minimum qualification and should be workers employed in small factories. Their applications should be sponsored by the small scale manufacturing units. The trainees who complete a course of training successfully are awarded certificates by the SSIDO.

The technical training programme was started in 1956-57 and the intake of trainees was about 250. Since then there has not only been considerable diversification in the training programme but also the intake of trainees has increased to about 3,500 in 1969-70.

**Technical Training**

The SSIDO training courses are of various types as detailed below:

(a) *Shop Practice Courses*

These include machine shop practice, tool room practice, foundry practice, blacksmithy, forging shop practice, etc.

(b) *Trade-oriented Courses*

Tool makers, fitters, machinists, sheet metal workers, carpenters and pattern makers.

(c) *Process-oriented Courses*

These include training in heat treatment, electric and gas welding, tanning and leather finishing, fruit and vegetable preservation, electroplating and anodising, etc.

*The development of a better design for a product is most effectively achieved by demonstration of the existing product. Here a class on designs for sewing machines is seen in progress in SISI, New Delhi.*

(d) *Product-oriented Courses*

These include manufacture of footwear, leather goods, paints and varnishes, safety matches, lens grinding, glass beads and toys, etc.

(e) *Part-time Evening Course in Blue-print Reading*

Regular and full-time courses on an all-India basis are conducted at the following centres also:

1. CENTRAL FOOTWEAR TRAINING CENTRE AT MADRAS AND AGRA

These centres conduct courses in advanced footwear technology for 18 months. A monthly stipend of Rs. 75.00 is given to every trainee.

2. PRODUCTION-CUM-TRAINING CENTRE AT ETTUMANUR, THIRUVALLA AND AGRA.

These centres were set up for the manufacture of Machine Tools, Electric Motors and Shoe Lasts respectively. They also conduct training programmes in the respective lines of production for the benefit of small industry personnel.

3. EXTENSION CENTRE, SOLAN.

This extension centre conducts a two-year training course in the manufacture of clinical and industrial thermometers and also a one-year training course in manufacture of glass apparatus. A monthly sptipend of Rs. 40.00 is paid to each trainee.

**Management Training**

Training courses in management aim at imparting a knowledge of the basic principles of efficient management of money, men and material and of effective marketing. Small industrialists or their nominees are eligible to attend the management training courses

*Picture shows women trainees undergoing specialised training in the manufacture of elegant footwear for ladies and children conducted by the Central Footwear Training Centre, Madras, an organisation under SSIDO, exclusively meant for training in footwear manufacture.*

which are conducted by the Small Industries Service Institutes in the evening at the places of concentration of small enterprises.

There are three types of training courses as detailed below:

I. *Industrial Management Appreciation Course of 10 weeks duration.*

The subjects covered in the appreciation course include introduction to management studies, production management, cost and budgetary control, purchasing and inventory control, introduction to marketing management, advertising and publicity, and the essential elements of industrial, labour and commercial legislation.

II. *Specialist Courses*

The specialist courses, each course of six weeks duration, are intended to give a better appreciation of the three basic fields of management, namely (a) financial management and cost accounting (b) production management and (c) marketing management.

The subjects covered under financial management and cost accounting are: financial management, financial accounts, cost cccounts, financial & Cost analysis and budgetary control.

The subjects covered under production management are: planning and organising, co-ordination and control, standardisation and simplification, purchasing, storekeeping and inventory control and work-study.

The subjects covered under marketing management are: distribution management, sales management, salemanship, market analysis, pricing, publicity and advertising.

Specialised course in Export Marketing of 4 weeks duration is also conducted for the benefit of small enterprises engaged in the manafacture of exportable goods. The subjects covered are: institutions connected with exports trade, facilities for exports, suitability of units and of products for exports, overseas markets, channels of distribution, finding the overseas buyers, elements of export marketing, export pricing, preparation for exports, financing and methods of payments, packaging, labelling, shipping & transport and documentation.

## AD-HOC COURSES

Special short term courses on specific aspects of management like inspection, quality control, work simplification, cost control, production planning and control, product development, etc. are conducted at the request of a group of small industrialists in a particular area. The contents and duration of these courses are decided on the basis of specific requests.

### Courses for Young Engineers in Industrial Entrepreneurship

In order to reduce the unemployment problem among the qualified young engineers and technicians, a country-wide programme for training the young engineers in industrial entrepreneurship has been started as a part of the promotional measure by the Government. Qualified but unemployed engineers and technicians are admitted to this course and they are provided with up-to-date information regarding the various procedures and rules for setting up a small scale industry. They are assisted in selecting suitable items for production and in making a project report for the manufacture of the same.

The role of various agencies assisting the development of small scale industries and the facilities available from them are also explained to them. The basic principles of sound management of a small enterprise are also covered in the course of training.

The Industrial Entrepreneurship course is of four months' duration. A monthly stipend of Rs. 250 each to the degree-holders and Rs. 150 each to the diploma-holders is paid when they are admitted to this course.

In all training programmes of the SSIDO, reputed guest speakers, drawn from various industries, trades and specialised institutions, are also invited to give lectures on specific subjects by virtue of their intimate and practical knowledge of the modern techniques of production and management in certain specialised fields. Maximum use is also made of visual aids, case studies (on the problems of small scale enterprises for giving a practical orientation to the outlook and approach of participants), factory visits and group discussions and seminars for encouraging mutual discussions and exchange of views.

*At the end of a training programme, each trainee is given a certificate. Picture shows Shri M.R. Krishna, Deputy Minister for ID & IT, Government of India, presenting the certificate to one of the trainees at the end of a course conducted by SISI, New Delhi.*

### Integrated Industrial Extension Training Institutes

There are two institutes, one at Nilokheri (Haryana) and the other at Hyderabad (Andhra Pradesh), which train officers dealing with Community Development Programmes (Block Development Officers and Extension Officers) in extension techniques designed to promote small scale and cottage

*Upgrading of skills forms an important aspect of the training programme for artisans. Picture shows a training class on the various types and uses of measuring instruments specially organised by the Extension Centre, Pondichery for the artisans in the area.*

industries in rural areas so that development of industries is integrated with other programmes of community development.

### National Productivity Council and Indian Institute of Foreign Trade

The National Productivity Council and the Indian Institute of Foreign Trade have also appropriate courses of training for small industrialists. While the National Productivity Council conducts courses in Industrial Production Management and Marketing, the Indian Institute of Foreign Trade conducts specialised courses in Export Marketing.

## OTHER INSTITUTIONAL TRAINING PROGRAMMES

### Industrial Training Institutes

In keeping with the policy of augmenting the facilities for training in technical trades to meet the requirements of skilled workers for new industries, the State Governments have established Industrial Training Institutes which give training in several engineering and non-engineering trades.

The Industrial Training Institutes offer training courses of 18 months duration in such trades as Turning, Milling, Welding, Machinist, Mechanic, Fitter, Electrician, Wire-man, etc. The non-engineering trades covered are: cutting, tailoring, calico-printing, dyeing, bleaching, footwear manufacture, carpentry, sports goods manufacture, etc. As against 58 ITIs in 1955-56, there are at present 357 Industrial Training Institutes, practically one in each district of every State in the country, which turn out 114,000 persons a year, qualified in various trades.

### Central Training Institutes

In order to feed the Industrial Training Institutes with qualified instructors in various trades and crafts, the Government of India has set up 7 Central Training Institutes with the help of the UNDP special fund and the International Labour Organisation.

### Polytechnics

Besides, there are a good number of Polytechnics in each State which offer diploma courses in civil, mechanical and electrical engineering.

# MARKETING SERVICES

## A. MARKETING ASSISTANCE PROGRAMME FOR SMALL SCALE INDUSTRIES IN INDIA

THE Industrial Policy Resolution passed by the Government of India in 1948, *inter alia*, observed: "The healthy expansion of cottage and small scale industries depends upon a number of factors like the provision of raw materials, cheap power, technical advice, organised marketing of their products." Its revised version in 1956 also laid stress on the 'organised marketing of their products', as one of the important aids for the promotion of small scale industries in the country. It was in pursuance of this part of the Resolution that the Government had introduced a regular marketing assistance programme for these industries as early as 1956.

Marketing assistance is rendered to small scale industries mainly in two forms: firstly, by undertaking the actual marketing of their products, and secondly, by conducting market research and investigation surveys for a particular product manufactured in the small scale sector or for a specific brand of the product manufactured by a particular small scale entrepreneur. Actual marketing of the small industry products is undertaken by the National Small Industries Corporation in the domestic markets under its programme of participation in Government stores purchases. The Small Scale Industries Development Organisation also facilitates the sale of small industry parts and components by acting as liaison agency and advisory body for promotion of ancillary production in the small sector. The State Trading Corporation under its Export Aid to Small Industries Scheme and the State Export Corporations or export wings of the State Small Industries Corporations at the State level assist small scale industries in selling their products in foreign markets.

Market research and investigation surveys are undertaken by the Small Scale Industries Development Organisation. The Indian Institute of Foreign Trade undertakes commodity surveys with special reference to their export potential and their sales conditions in export market. These surveys cover the entire industry including the large and small scale sector and have, therefore, a partial relevance for the purposes of small industry products in the field. The content of the programme and the progress made by the concerned organizations or Institutes in the two fields of market assistance programme namely (a) actual marketing of small industries products, and (b) market research and investigation for promotion of small industries sales are discussed below:

**Assistance in Actual Marketing**

Assistance in actual marketing of small industry products in the country is provided mainly in two forms: firstly: the participation of small scale units in Government Stores Purchase Programme; and secondly, the development of ancillary relationship between the large and small scale units of the specified industries.

*Contents of the Government Stores Purchase Programme:* The programme is to assist the small scale units in obtaining a fair share of the government contracts. It was first initiated by the Government India through the National Small Industries Corporation (NSIC) in the year 1956. According to to the present policy, all the indents for purchases to be made by the Director General of Supplies and Disposals are categorised into the following four groups:

(1) Items which are of no interest to small scale units and can be procured only from the large scale sector.

(2) Items which by their very nature require large scale firms as prime contractors but permit substantial scope to the large scale contractors to purchase components and parts from small scale units.

(3) Residuary items which both small as well as large scale firms can supply.

(4) Items which could be reserved for procurement from the small scale units only.

The small scale units are mainly interested in items falling under the Group (3) and (4) mentioned above. In respect of Group (3) small scale units have to compete with large scale units for securing government contracts. As such, a price preference upto 15 per cent is given to the small scale units, compared to the quotations accepted by D.G.S. & D. from the large scale units. While deciding about the extent of price preferences, the Purchase Officer normally takes into consideration the factors like overhead costs, any handicap in capacity utilisation and the previous record of the performance, etc.

166 items in group (4) are totally reserved for purchase from small scale industries. The number of items in this group is revised and has been increasing from time to time.

The small scale units can participate in government stores purchases directly, but in order to facilitate such a participation by them, the NSIC assists them in more than one way. The NSIC enlists the small scale units for the specific items in respect of their participation in such purchases. It satisfies itself about the technical competency of the applicant small scale units for the purpose through the agency of Small Industries Service Institutes. On receipt of information about the government contracts, the NSIC circulates the same among the enlisted small scale units with reference to the items for which the latter are registered with the former.

As against the direct registration by the small scale units with the D.G.S. & D., the participation by them in government purchases through the NSIC, confers certain benefits on these units. A small scale unit enlisted with NSIC need not register itself with the D.G.S. & D. for the purpose. It obtains a set of tenders from the NSIC free of charge. It sends the tender direct to the Purchase Officer of the DGS&D. Further, it need not deposit any security money with the D.G.S. & D. It obtains the necessary technical assistance and help in procurement of raw materials, etc. in order to successfully execute the contract.

Furthermore, credit facilities are granted to the enlisted small scale units by the NSIC under its Guarantee Scheme No. 2, which is a revised version of the first Credit Guarantee Scheme introduced in 1958. The first Credit Guarantee Scheme was operated in connection with the State Bank of India. It enabled the small scale units which had been registered with the NSIC to secure contracts from Government, obtain more liberal bank finance than what is normally allowed by banks. It made it possible for them to have bank credit upto 100 per cent of the value of raw materials pledged by them whereas they could otherwise get loans from the banks upto about 70 per cent of the value of the pledged material. For such an assistance, the NSIC charged a nominal service charge at the rate of half a per cent over the normal interest charged by the State Bank.

This Scheme, no doubt, helped the qualified small scale units, but within the limited scope that it had, enabled them to obtain bank finance for purchase of raw materials only while for other needs of finance they had to depend on the normal channels of credit. This lacuna was sought to be overcome through revising the Scheme. The revised scheme is known as Credit Guaranteed Scheme No. 2 (NSIC-C.G.S.). This Scheme extends the benefit of the NSIC's Guarantee on much more liberal basis in many forms; firstly, it covers the contracts obtained by the qualified small scale units from public sector undertakings in addition to the Government Organisation; and, secondly, it extends security to bank advances made to the qualified units not only for purchase of

*The SSIDO and its net-work of Institutes regularly take part in industrial exhibitions organised in the States. Picture shows the SISI Pavilion in an exhibition organised at Bhubaneshwar, Orissa.*

raw materials but also for meeting financial needs at all stages of production beginning with the purchase of raw materials and ending with the discounting of bills; and thirdly, it entitles a qualified small unit to have a credit amounting to Rs. 83,333 per time and for as many times as needed, as against the maximum limit of Rs. 100,000 for the contract period as a whole.

*Performance under the Programme*

Small Scale units have been supplying goods to the D.G.S. & D. in increasing amounts and to the Railways and the Post & Telegraph departments in varying amounts. Their sales to the former continuously rose from Rs. 240.1 million in 1965-66 to Rs. 292.9 million in 1969-70. On the other hand, the sales effected by the enlisted units to the latter departments steeply declined from Rs. 220 million in 1965-66 to Rs. 212 million in 1968-69 and soared suddenly to Rs. 199.0 million in 1969-70.

D.G.S. & D. is the chief Government agency to purchase stores from the small scale units, as its purchases from the enlisted units accounted for slightly over 50 cent of the total departmental purchases from them. Its purchases from small scale units account for 6—7 per cent of its total purchases of indigenous stores during the past few years.

The NSIC is the chief channel through which the government stores are purchased from small scale units. The number of units enlisted with it for the purpose went up to 18,976 in April, 1970 as compared to 16,804 in March, 1968. The share of small units enlisted with it in total purchases from small scale units was 48 per cent in 1965-66 and 51 per cent in 1969-70. It shows that a large number of small scale units continue to deal directly with the D.G.S. & D. whereas units with comparatively weak finances depend on the NSIC for participation in Government Stores Purchase Programme.

Small scale units in almost all the States participate in this programme, though in a varying degree. The participant units (enlisted with the NSIC) in the four States, viz., Punjab, Uttar Pradesh, West Bengal and Delhi, were responsible for about 82 per cent of the total supplies made available by all the enlisted units in 1966-67 and nearly 70 per cent of the same in 1969-70. The decline in their relative share during these years shows that the small scale units in the less developed States increasingly participated in this Programme.

*Future Perspective*

The Programme, as can be seen from the above analysis, has not so far made a significant impact on the small scale sector on account of certain well-known reasons. The small scale units in the States like Assam, Bihar, Madhya Pradesh, Rajasthan, etc. had quite an insignificant share in Government Purchases in 1966-67 but considerably improved their corresponsding share in 1969-70. Thus, this programme has helped the small units in comparatively less developed States only in recent few years.

The Working Group of the Administrative Reforms Commission on small scale sector observed that "special set aside" procedure prescribed in the government order for the procurement of a part of the purchases compulsorily from the small scale sector on the basis of the prices quoted for the "non-set-aside" portion plus a price preference of 15 per cent has not been implemented in practice. Also, it may be due to the fact that the items reserved for purchase from small scale sector exclusively are minor in value and that the items of major value are not extensively manufactured in the small scale sector.

In order that the small scale sector participates in the Programme in a significant proportion, the Small Scale Industries Development Organisation provides for much more intensive attention to be given to the small scale units by providing them specialised services in the fields of technical know-how, management, costing, accounting, etc. It is expected that the small scale units manufacturing the reserved and non-reserved items will derive much more benefit under the programme than before.

## Ancillary Development

### *Policy and Programme*

Promotion of small scale units as ancillaries to large scale units in the public and private sector was accepted in the beginning as a means to aid small scale industries in the field of marketing. A positive programme for the development of these industries as ancillaries was drawn up in the latter part of the fifties and a Standing Committee on Ancillaries was appointed by the Small Scale Industries Board in 1960. The Committee favoured a selective approach in as much as that it decided to concentrate the government aid and advice on developing ancillaries in the specified 16 industrial groups, assessed to have potential for the purpose. These groups are industrial machinery; agricultural and earth moving machinery; machine tools, industrial, scientific and mathematical instruments (mechanical); locomotives and rolling stocks; ships and aircrafts; bicycles; boilers and steam generating plants; steam engines, turbine and internal combustion engines; automobiles; commercial office and household equipment; electrical machinery, equipment and appliances; tele-communication equipment; industrial instruments (electrical); radios and electronic equipment, air-conditioners and cold storage equipment including refrigerators; mineral oil and petroleum industries.

Considering the need for higher capital required by small scale units to function as ancillaries, the Government of India has fixed a higher capital limit of Rs. 1 million investment in machinery and equipment for an ancillary unit to be calssified as a small scale unit.

The assistance programme designed for the purpose has production as well as the marketing aspect, the former is unavoidably needed to accomplish the latter. But its objective is finally to ensure the satisfactory marketing arrangements for ancillary production in the small scale sector. As a matter of fact, the marketing aspect of this programme gets precedence on the production aspect in that the assistance programme consists firstly of the identification of ancillaries and components needed by large scale units and secondly, determination of the technical feasibility and economic viability for manufacturing the items on small scale basis. After having obtained the necessary quality specifications of the needed ancillaries from the prospective large scale buyers, the assistance programme proceeds to locate the competent small scale units and to help the selected ones in procuring the necessary production inputs, i.e. raw materials, balancing equipment, finance, necessary technical assistance and guidance, etc. for successful execution of the supply orders. There is an ancillary directorate in the office of the Development Commissioner (Small Scale Industries) with its counterpart cells in the Small Industries Service Institutes. This directorate undertakes the identification of needed ancillaries through personal contacts with large scale units, meetings and conferences attended by the representatives of large and small scale industries, and necessary scrutiny of production schedules proposed by large scale units at the level of industrial licensing in the Ministry concerned. It spots out the competent small scale units whose production capability is sought to be strengthened through recommending their cases for allotment of factories in industrial estates, supply of balancing equipment by NSIC on hire-purchase basis, allotment of scarce (imported and indigenous) raw materials, allocation of finance from banks, etc.

*Almost every SISI in each State has organised a permanent exhibition of small industry products. Picture shows the technical officers of SISI, Bombay explaining the special features of an automobile head-light to a visiting dignitary.*

Its technical officers render technical assistance to the selected units as earnestly as they can.

In order to give an impetus to the programme, regional committees at various places like Bombay, Calcutta, Madras, Delhi, Bangalore, Patna and Ahmedabad have been set up mainly to prepare lists of parts and components and sub-assemblies required by large scale units and to suggest items of production to be demarcated for the small scale sector so as to fit in with the end-product programme proposed for large scale industries.

*Progress*

The programme as outlined above has made considerable progress during the recent years. The small scale units were assisted to market their ancillary production worth Rs. 190 million in 1968-69 and Rs. 250 million in 1969-70 to the large scale units in the public and private sector. They are expected to market their ancillary products valued at Rs. 300 million in 1970-71. It is the result of intensive efforts made by the agencies concerned that a number of leading large scale undertakings in the public and private sector have encouraged ancillary production in small scale sector for their own requirements. The important among the public undertakings are the Hindustan Machine Tools, Bharat Electronics Ltd. Bangalore, Heavy Electricals (India) Ltd., Bhopal, Heavy Engineering Corporation, Ranchi, Enfield (India), I.C.F. Madras, Bharat Heavy Electrical Ltd., Tiruchirapalli, etc. Some of these undertakings have even set up industrial estates to house their respective ancillary units. The small units in the industrial estate set up by HMT Ltd., Bangalore are reported to have produced parts/components worth Rs. 8.2 million. They have invested Rs. 10 million in machinery and equipment and provided employment to about 1500 workers. Other 19 small units working as ancillaries to the Heavy Electricals (India) Ltd., Bhopal, are reported to have executed orders worth

Rs. 6.6 million for their principals.

Small scale units are enabled to sell their ancillaries in the replacement market also. They are also assisted to sell ancillaries manufactured by them to the Defence and the Railway departments.

*Prospects*

Recently, at a seminar held to discuss the "Development of Ancillary Industries by Public Sector undertakings" at Bangalore, it was decided that every public sector undertaking where ancillary development is possible, should set up an Ancillary Division or designate a Senior Officer who should be primarily responsible for the development of ancillaries and for farming out parts/components and sub-assemblies which can be competently produced in small scale ancillary units, around the enterprise. The designated Officer is required to keep the office of the Development Commissioner, Small Scale Industries informed about progress in this direction. Also the public sector undertakings are required to take upon themselves the responsibility for the development of Ancillary Industrial Estates, in co-operation and, with the assistance of the State Governments. Wherever ancillary units can be set up, they are provided with the minimum basic infra-structural facilities.

Further, public undertakings are to be assisted by Government for setting up raw material banks out of which the requirements of ancillary units, particularly of the scarce materials could be drawn. The financial requirements of ancillary units for executing orders are also to be met adequately. The Seminar has also recommended certain guidelines for development of new ancillary units. These relate to the specification of items proposed by large undertakings for manufacture and the identification through necessary scrutiny of the parts and components to be manufactured on ancillary basis. The large undertakings are required to spell out the items which they propose to farm out to ancillary units either by value or percentage; as determined by the DCSSI in consultation with them. The ministry concerned has accepted these guidelines and issued suitable instructions to the Licensing Committee in the matter.

These measures are expected to considerably help the development of ancillary production and to aid the small scale units in having an assured market for their ancillary products.

**Other Forms of Assistance**

The State Small Industries Corporations also undertake actual marketing of small industry products through opening sales emporium, procurement of orders under the State Government Purchases Programme for small scale units, etc. The State Small Industries Corporation in Kerala set up a sales emporium at Ernakulam on behalf of the Government. The Corporation in Orissa sells products manufactured at the Panchayat Samiti industrial units. The Corporation in Rajasthan has established three handicrafts emporia in the State. Similarly, 91 sales emporia are run by the Corporation in West Bengal in different districts of the State, as well as outside the State.

Apart from facilitating participation of small manufacturers in Government store purchases, the NSIC has been experimenting with other devices also as an aid to the marketing of small industry products within and outside the country. In pursuance of recommendation made by Dr. Lincoln Clark, a Ford Foundation Marketing Expert, the NSIC started to operate three mobile vans having their base in Delhi. In pursuance of the observation made by the Small Scale Industries Board at its meeting in May, 1956 at Srinagar, the mobile van operations were treated more as an instrument for carrying out the marketing research and for giving publicity for products of small scale industries and the actual selling operation was made subservient to these two main objectives. Afterwards, these operations were extended to all the four regions in the country, resulting in substantial sales particularly of domestic utensils in almost all the regions. Sales of other items like amusement and sport goods in the southern region, and clothing items in the northern, eastern and western regions were also boosted. Consumer reactions to stores sold from the vans were communicated to the small scale manufacturers for taking necessary action for improvement of their products. Visit by a van to a new town or village was preceded by a quick survey undertaken by investigators to assess the likely volume of sales there.

Vans operations were discontinued in April, 1959 because it was felt that efforts should have been concentrated on creating direct contacts between the producers and the wholesalers/retailers. Accordingly, an Incentive Sales Promotion Scheme was initiated in May, 1959, in respect of leather footwear, cotton hosiery and paints & varnishes. Shortly afterwards, the Corporation decided to commence an effective marketing programme at a lesser expense and experimented with the pilot Scheme in Delhi. The objective of this Scheme was to establish new utlets for small industry products, to increase sales f each product, to collect and report market eactions to products sold, and to bring the manuacturers and retailers into direct and closer contacts. Jnder this programme, the Corporation salesmen vent round the markets with samples given free by nanufacturers and booked orders on their behalf. The salesmen were to report market reactions on the quality and price of products and also the names and addresses of reliable dealers for appointment as selling agents. Certain products like electrical appliances, electrical toasters, cutlery, fountain pens, etc. were selected for implementing this programme. But it was given up later and the work of collecting marketing reactions to products and of establishing contacts between manufacturers and retailers was transferred to the SSIDO.

The NSIC also set up a net-work of wholesales depots in areas where small scale industrial units were concentrated. Such depots were established at Agra for footwear, Khurja for pottery, Aligarh for locks, Ludhiana for hosiery and at Bombay for paints. It intended to enable small scale industries through such depots to overcome their main marketing shortcomings, i.e., lack of standards and lack of trade name, assuring quality of the product and the basis of contact with a wider market. These depots laid down specifications for the products marketed through them and established inspection arrangements for checking quality of products. They used the trade name 'Jan Sevak' They were closed down progressively by the year 1960 excepting those at Agra and Khurja, which also ceased functioning later.

The NSIC has also been experimenting in various ways to supply raw materials to small scale industries. It established a Raw Material Depot at Ludhiana in April, 1958 to supply iron and steel items to small scale units, which was later handed over to the State Small Industries Corporation in April 1963. It set up a Raw Material Depot at Okhla near Delhi towards the end of 1965, which is operating at present. It also imported and distributed cycle components and knitting needles to small scale units and procured brass caps from ordnance factories and supplied the same to small units. It is also handling distribution of radio-valves and transistors manufactured by Bharat Electronics Limited, Bangalore, to small scale manufacturers. It booked orders worth Rs. 4.42 million during the year 1966-67. It has also entered into an agreement with the National Physical Laboratory for distribution of ferrite components used mostly by radio manufacturers.

The Corporation also undertook direct sales of consumer goods through retail shops like Lilliput in Madras and the Prestige Leather Footwear Shop in New Delhi. In short, it has tried various methods for assisting small industries in marketing their goods with the varying degree of success.

### *Export Selling by NSIC*

The NSIC experimented in export marketing too and established an Export Section in its marketing division. This section started operations when the Corporation had received an order for three hundred thousand pairs of shoes from Russia. It organised production of quality shoes in standards not normally obtained in the country. It distributed shoe lasts worth about Rs. 55,000 to the traders. It had to set up requisite machinery to look after production, inspection and storage of goods and payments made in advance to the small scale units. As a result of execution of this order, the production of quality shoes in the country has almost doubled. The Corporation also explored possibilities of exporting cotton and woollen hosiery, paints & varnishes, machine parts and other products of small scale industries. It was in 1962-63 that export marketing of the small industry products was transferred to the State Trading Corporation. But the NSIC has of late set up an export wing to undertake export business in certain products. It has also prepared a detailed scheme which is reported to be under the consideration of the Government of India.

### *EASI Scheme*

The State Trading Corporation operates an Export Aid to Small Industries Scheme (EASI). The operational details of the Scheme in different fields are described at another place. Here, mention is to be made of the actual marketing of small industry products under the EASI scheme. The STC not only identifies the competent small units for manufacturing export products but also spots out importers of the same in overseas markets and helps commercial transactions to take place between them on commission basis. Its export transactions on this account run into millions of Rupees since the inception of the scheme; besides, it has also chartered new directions of export trade.

### *State Government Corporations*

Actual export marketing of small industry products is also undertaken by some of the State Small

Industries Corporations. The Maharashtra Small Industries Development Corporation makes efforts to export the products of small scale industries. It was able to secure export business worth over one million Rupees during the year 1966-67. Similar corporations in other States have also ventured into export markets with a varying degree of success.

*Other Agencies*

Some among the private export houses help small scale industries in exporting their products in certain selected fields, mostly on consignment basis. Certain small scale industries have attempted to organise export marketing on group basis, but with a very limited success.

The latest agency established to marketing industrial products abroad is the Trade Development Authority with an autonomous status and sponsored by the Ministry of Foreign Trade. The Authority intends to render an integrated marketing assistance on micro-level, especially to small scale industries which generally lack experience and funds required for export marketing.

### Market Research and Surveys

*Domestic Market Surveys*

The Small Scale Industries Development Organisation renders market research assistance to smalls cale industries with a view to exploring the markets and the classes of consumers to be tapped and also to identify the market contacts to be utilized by them for sale promotion of their products. It provides such an assistance in the form of two types of surveys, namely Market Distribution Aid Surveys and the Industry/Product Market Surveys.

The Market Distribution Aid Surveys are undertaken on the specific request of a small entrepreneur. To start with, these were conducted free of charge but recently a fee is charged not so much for revenue considerations as for filtering the non-too-serious requests. The Organization has so far completed nearly 260 Distribution Aid Surveys in respect of quite a large variety of end-products. Among these end-products are included simple items like pencils and nibs as well as complex items like electric motors, lathes, etc. A large number of these surveys are in respect of consumer goods which were predominant at the initial stages in the product-mix of small scale sector. Later, as small entrepreneurs started undertaking the manufacture of producer goods, these items were also taken up for Distribution-Aid Surveys. These surveys are undertaken by economic investigation teams in the four erstwhile regional Small Industries Service Institutes at Bombay, Calcutta, Delhi and Madras on regional basis. These studies were intended to apprise small manufacturers of their share in the total market sales, their future marketing prospects. These studies also identify the areas of product improvement and competitiveness and suggest the measures for the sales of their products.

Marketing research assistance rendered to a small entrepreneur does not end with the supply of a survey report which includes suggestions for modification and re-orientation of marketing practices. Thereafter, all the possible assistance and guidance are rendered to the small scale unit for improvement of his product quality and/or price reduction, if necessary, in order to enable him to capture the maximum possible segment of the market. Apart from assisting the small entrepreneur in obtaining production requisites as raw materials, machinery, power, finance, etc. from the concerned agencies, the concerned SISI also helps him in establishing business contacts with market dealers and distributors interested in his product. A few evaluation studies of this type of service to small manufacturers have revealed that the suggestions made in the reports are generally implemented and that their implementation has brought about a net gain to the manufacturers in their business.

The Industry/Product Market Surveys are undertaken not on behalf of any particular entrepreneur, but on the basis of preliminary data available with the Economic Investigation Division of the *Office* of the Development Commissioner (SSI) in consultation with the technical Divisions in the SSIDO.

As compared to Distribution Aid Surveys, they are more intensive in depth and extensive in scope. These surveys have been prepared for a large number of products, to mention a few: flavouring essences, insulating tape, miniature bulbs, spectacle lens grinding, automobile spare parts, diesel engines, cycles and cycle parts, builders' hardware, PVC shoes, etc. Reports on these surveys are widely circulated amongst small industry associations and principal small entrepreneurs in different parts of the country in order to help them in their business decisions. They have also proved useful to wholesale dealers and distributors, who become well acquainted with trade terms offered by different manufacturers of the product in different regions of the country. In view of the fact that the reports on Industry/Product Surveys benefit a larger number of small entrepreneurs than the Distribution Aid Surveys, the former are accorded a higher priority than the latter in the programme of work of the SSIDO.

*The Economic Investigation Division of the SSIDO has built up an expertise in market research. Picture shows an officer of the SISI, Kanpur discussing marketing aspects with small industrialists with the help of samples.*

*Export Market Surveys*

The Indian Institute of Foreign Trade undertakes surveys of particular commodities/products manufactured with a view to studying their export potential and prospects. It has prepared a large number of such study reports. These reports make reference to the small scale units manufacturing the products under study. In addition, the SSIDO prepares market research reports on products manufactured predominantly in small scale sector. It has prepared such reports on a number of products, viz. sports goods, bicycles and bicycle parts, sewing machines, electric fans, woollen and cotton hosiery, scientific instruments and machine tools. It has also prepared a report on Export Opportunities for Small Industry Products in Kenya.

The Export Promotion Councils and the State Export Corporations for Export Wings of the State Small Industries Corporations depute delegations of industrialists, including small ones, for export market surveys in general or for specific product groups. Reports on these surveys too prove useful to small manufacturers in exploring the overseas markets.

The Ministry of Foreign Trade also publishes the commodity and area-wise export market report, which contain a lot of information on export prospects and requisites of specific products in specific markets.

The Export Promotion Directorate in the office of Development Commissioner (Small Scale Industries) collects, compiles and collates information on export possibilities for small scale industries from diverse sources of information. It, thus, intends to provide a well-digested export market intelligence of direct use to small manufacturers interested in export marketing.

**Overall View**

Marketing assistance programme for small scale industries in India covers both the exploratory and the actual selling aspects of marketing. Exploratory aspect of the programme is looked after chiefly by the Small Scale Industries Development Organisation and, to some extent, by the Indian Institute of Foreign Trade, in the sphere of small scale industries. Actual marketing of small industry products in domestic markets has been the responsibility of the National Small Industries Corporation and, to some extent, also that of the SSIDO in so far as it is responsible for promoting sales through the medium of ancillary relationship between the large and the small manufacturers. Export selling of small industry products is the concern of the STC under its EASI Scheme, the NSIC, the State Small Industries Corporations, the private export houses and the export groups. The Trade Development Authority is the latest innovative institution with innovative methods of working. Since small scale industries have a wider dispersion and are varied in size and complexion and since their marketing problems are becoming intense, more than one agency are there to help small scale industries in meeting their specific marketing difficulties on individual and aggregative level.

## B. MARKET RESEARCH TYPICAL FOR SMALL INDUSTRIES

### Introduction

It is said that in the capitalistic system of economy, the consumer is the king. This view is disputed by some. Whatever may be the correctness or otherwise of this statement, one thing is clear, that in modern industrial economy, the consumer holds a key position and that Market Research is directed to know his changing needs and tastes. After all, the purpose of all production is ultimate consumption.

Modern market research is more or less a post-World War II development. It is true that even before World War II, market research was used in the United Kingdom and some other Anglo-Saxon countries to find out better outlets for products. It is believed that it was from the United Kingdom that the ideas of market research migrated to the United States. In the United States, market research took firm roots and developed into a well-organised social science. Now-a-days, more books on various methods and techniques on the different aspects of market research are published in the United States than in the United Kingdom. There are important market research organisations in the United kingdom, in the United States and other European and Asian countries, e.g., British Market Research Society of the U.K., American Marketing Association of the U.S.A., etc. There are also international organisations of market research like European Society for Opinion and Market Research (ESOMAR) and the World Association for Public Opinion and Market Research (WAPOR).

### Market Research in India

In India also, market research gained importance soon after World War II. There are not many organised bodies in India as in the U.K. or the U.S.A. for undertaking market research on professional basis, excepting M/s Hindustan Thompson Associates Ltd., Madras and M/s Clarion McCann Advertising Services Ltd., Madras. However, there are market research departments attached to important manufacturing firms like Hindustan Lever, Tatas and other business houses, mainly meant for their consumer articles.

### Need for Market Research

Modern technical progress has led to mass production, which in turn necessitated research into the marketing aspects of products. In olden days, when the producer more or less knew who his ultimate consumers were, he never worried about the marketing problem. But in the modern industrial economy, the producer has hardly any direct knowledge of his ultimate consumer. This is particularly true in the case of producers of consumer goods. It is in such a situation that the need for market research has arisen. Though mass production has brought down the cost per unit of production, there is a corresponding increase in the cost of distribution. It is said that of every U.S. Dollar which the consumer pays for his purchase, half is on account of the cost of distribution. This may be a bit of exaggeration; but it highlights the fact that modern marketing is a very costly affair. But this is an unavoidable aspect of present competitive free economy.

### What is Market?

A market may be defined as "an area within which the forces of demand and supply converge to establish a single price". It may also be viewed geographically as a physical extent of territory or as a more or less organised group of individuals or bodies whose bids and offers disclose the supply and demand situation and thereby establish a price.

### What is Market Research?

"Market Research is the gathering, recording, analysing and reporting of all facts relating to the transfer and sale of goods and services from the producer to the consumer. It is usually, but not necessarily, based on statistical probability theory and always uses the scientific method". Market research uses scientific method for the purpose of discovering human behaviour and opinions. Its most powerful tool is the science of statistics.

Market research is a tool of management. It should be used only by responsible men who know how to handle it. Market research by itself cannot solve a firm's business problems. What it can do is to narrow the field of uncertainty in which the particular business problems are set and thus facilitate effective decisions being taken. For example, if a firm wants to increase the price of its product, it should not do it without taking into account the effect of such a price-rise on the total demand for the item. For this purpose, market research is required to advise the firm whether it can, under the prevailing conditions, think in terms of a price-rise at all; if a price-rise is possible, to what extent it should be; whether it should be 10%, 15%, 20% or more. If a decision is taken peremptorily by the firm's business executives to put up the price without studying the effect of such a rise on its sales, then the firm will come to grief.

### Main types of Market Research

There are mainly two types of market research to solve the business problems; one is internal research and the other is external research. Internal research makes use of the mass of data available with the firm about its past sales, price variations, results of any previous market research reports, etc. External market research is mainly done through field-work by conducting market surveys and studies. External research is therefore always costly compared to the internal research.

### Main Divisions of External Market Research

There are three main divisions of external market research. They are (1) product research; (2) sales research; and (3) consumer research. Besides these three, there are other aspects like wholesale and retail distribution analysis, quantitative market analysis, attitude and opinion research, advertising and sales promotion research, brand position analysis, etc. All these are not mutually exclusive. They are all complementary to one another and it is for the organisers of the market research to determine what particular aspects are to be covered during the market research keeping in view the objectives of the sponsors of the project.

### Product Research

Product research is intended to find out by field work the design of a new product contemplated, its size, its price, its probable appeal to the consumers, its position vis-a-vis other competing products, etc. Product research is also necessary for changing the design or quality or utility of an existing product so as to make it more appealing to the consumers. So, whenever any major decision regarding a new product or changing the design or content of an old product to suit prevailing market requirements is to be taken, product research is a necessity.

### Sales Research

Sales research is needed when a product has been put into the market and when it is being stocked by many wholesalers and retailers in the important towns in the region or in the country as a whole. Sales research will tell the manufacturer how many of the units sold by him over a certain period of time have actually been bought by shopkeepers and how many are in the retailers' or wholesalers' stock rooms. Sales research is also required for making a realistic estimate of future sales, which is called sales forecasting. Sales research will also enable the manufacturer to know how many shops stock the product, how many do not, whether the product is stocked by more than one kind of shop, whether it is distributed evenly over a market and between one region and another, etc.

### Consumer Research

The consumer is the final arbiter of the ultimate success of the manufacturer. The peculiar taste of the consumer, his attitude to a particular product, the frequency of his purchase, his tendency to change over to other competing brands of the product consequent on some change in the price, in the packaging, appearance, etc. are to be covered by consumer research. The manufacturer should always know the needs, tastes and behaviour of the ultimate consumers of his products. Very often, wrong ideas on this point, lead to loss of sales. Only consumer research can provide the answer to this and many other similar questions. It can provide the manufacturer with a complete picture of his customer with regard to his age group, social status, sex, size of the town where he lives and other related characteristics. Consumer research will also inform the manufacturer as to what are the buying habits of the public in respect of his goods, when and where they buy them and the use which is made of them. It will also help him to find out why some people buy a particular product and not a competing one, whether they will continue to do so and what they think of the product. It is interesting to mention here that when Nescafe Coffee was introduced in the United Kingdom, there was a concealed reluctance on the part of the housewives to purchase Nescafe Coffee even though its superior qualities were well-known. A research was conducted by experienced field staff by interviewing some of the house-wives. It was found that their reluctance was mainly due to a feeling that those who bought Nescafe would be dubbed as lazy housewives who did not want to take the trouble of preparing coffee in the traditional manner.

### Need for Market Research in India

So far, we have been dealing with the general aspects of market research, generally adopted by large industries. The question is asked whether market research is also necessary for the small industries. In a sellers' market, the manufacturer can sell his products without much difficulty. Conditions of sellers' market will not be a permanent feature. Gradually, conditions of sellers' market will disappear and buyers' market will emerge. Even in conditions of sellers' market there is a place for market research for small industries since there will be a number of competing products compelling the attention and patronage of the customer. Hence the need for market research for the products of small industries cannot be overlooked. Whatever the condition of the market, buyers' or sellers', market research is indispensable for small industry products.

In India, conditions are gradually changing from a sellers' market to a buyers' market. In a buyers' market, the quality of the product should be the first consideration. Even with acceptable quality, the problem of sales is not minimised.

### Market Research for Small Industry

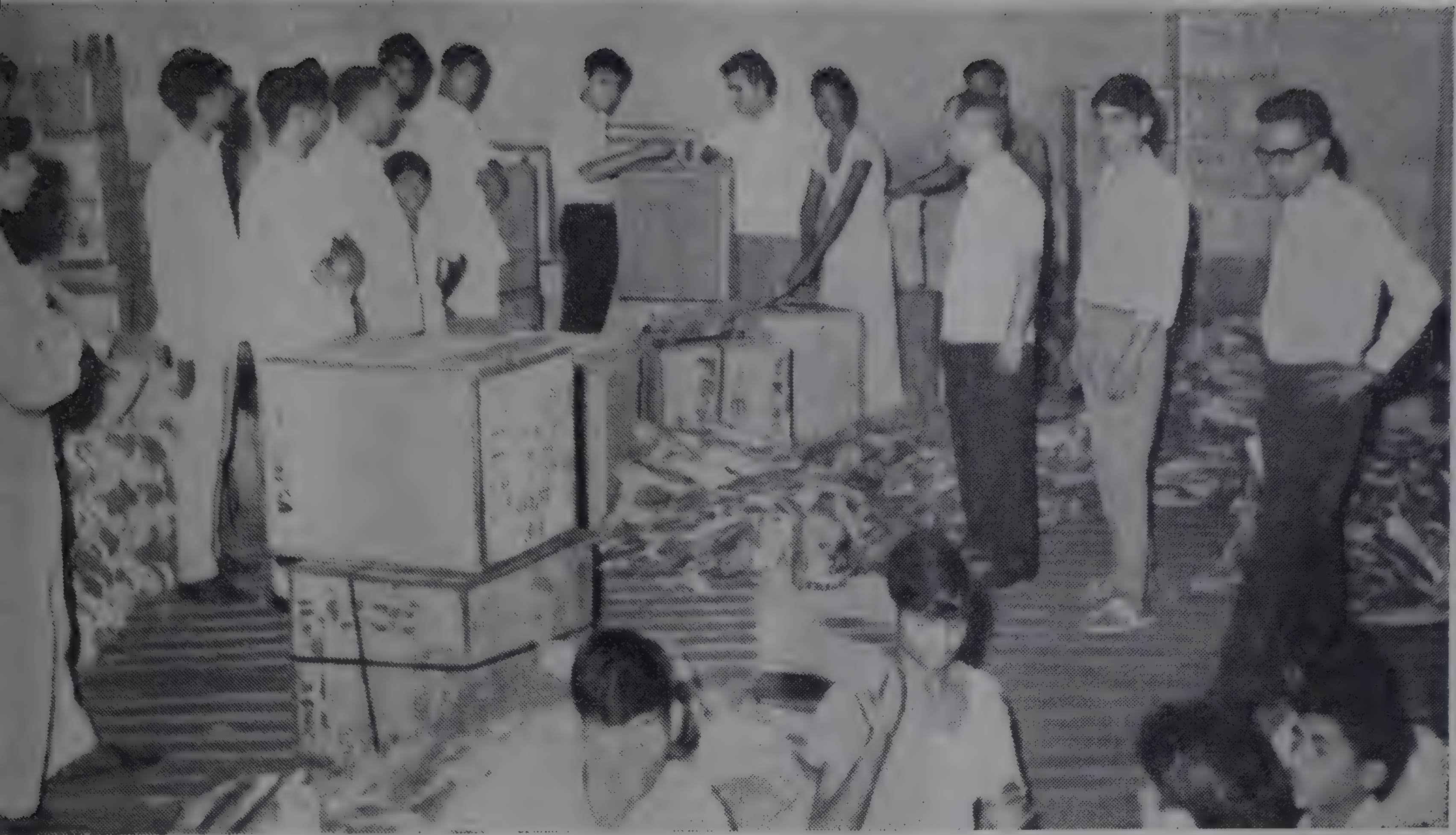
Limited as its resources are, a small enterprise cannot afford to spend large sums of money on market research for its products. Therefore, when the small industries programme of the Government of India was launched in 1953-54, a programme of marketing assistance through some kind of market research was also included. One of the recommendations of the International Planning Team sponsored by the Ford Foundation which visited India in 1953-54, was the establishment of a body or corporation for rendering marketing assistance to small industrialists. It was with this as one of the objectives that the National Small Industries Corporation was established by the Government of India.

### Origin

The National Small Industries Corporation rendered in the initial stages marketing assistance to small industrialists through opening of depots for selling their products and also through the operation of mobile sales vans. These sales vans carried the products of small industrialists to important marketing centres in the region and sold them. At the time of the sale, trained researchers, who accompanied the mobile vans, conducted consumer research. These trained researchers kept a watch on all those who went to the mobiile vans for the purpose of purchasing. These researchers elicited a good deal of information from the customers through informal conversation with them. They tried to find out why a customer had purchased from their sales depot or van a particular product, what was his idea about its price, quality, whether he has knowledge of other competing products, packaging, etc. If the customer did not purchase the product, they tried to ascertain from him why he had not purchased; whether it was due to high price, unattractive packing, poor quality of the product or any other reason. Based on such a survey, a report was prepared by them in which their findings were recorded. These reports were considered helpful to the manufacturer as they contained suggestions useful to him.

### Distribution Aid Surveys

The sales van operations were discontinued as they did not prove very successful and they were costly compared to their utility. The functions of the National Small Industries Corporation relating to consumer research were therefore taken over by the Economic Investigation Division attached to the Regional Small Industries Service Institutes at Madras, Delhi, Calcutta and Bombay. Since then, a type of market research known as Distribution Aid Survey was introduced. These Distribution Aid Surveys were conducted at the request of small industrialists who had marketing problems. A nominal fee of Rs. 250 was charged for the conduct of a Distribu-



*Marketing assistance rendered by SSIDO covers many aspects. Picture shows guidance being given on better methods of packaging to a small scale unit at Jullundur, manufacturing rubber footwear.*

tion Aid Survey for a particular product which was already in the market (and not for a product which was in the planning stage). The methodology to be adopted for the Distribution Aid Survey has been streamlined by specialists sent by the Ford Foundation. Different proformae were used for collecting specific information regarding the product.

**How it is done ?**

As stated earlier, these Distribution Aid Surveys are done on regional basis, the southern region comprising the States of Tamil Nadu, Andhra Pradesh and Kerala. A decision to undertake Distribution Aid Surveys for a product is finally taken only after the necessary approval from the Development Commissioner, Small Scale Industries, New Delhi. The small industrialists for whom the Distribution Aid Survey is finally approved are asked to pay Rs. 250 and also to send a few samples of the product to be used during the field survey. These samples are meant to be carried by the field investigators who undertake the field survey at the various commercial centres which they visit, for being shown to the wholesale and retail dealers individuals or institutional consumers and other parties who are likely to be interested in the product and who are in a position to give proper opinions on the quality of the product, its prices etc. The investigators during the field study would try to get the reactions of various people to the product with particular reference to its quality, price, competitive strength, packaging and other related matters vis-a-vis similar products available in the market. They also try to get an idea of the estimated sales of the product under survey in each centre and the approximate increase in the future demand or sales. Generally, these investigators visit more than a dozen centres spread all over the three states. These centres are selected on the basis of their commercial importance. Ordinarily, Madras City, Coimbatore, Madurai and Tiruchirapally in Tamil Nadu, Trivandrum, Kozhikode, Ernakulam/Cochin in Kerala State and Hyderabad/Secunderabad, Vijayawada, Visakhapatanam and Rajahmundry in Andhra Pradesh State are the centres visited. At each centre, depending upon the size or importance of the centre, a large number of parties consisting of wholesalers, retailers, institutional consumers, etc. in all about 20 or even more according to the type of product and the nature of the market, are contacted, their opinions elicited by the field investigators. The investigators contact the manufacturer for whom the Distribution Aid Survey is undertaken (if he happens to be within the region) and discuss with him the specific problems relating to the sales of his product. They also invariably visit almost all the other manufacturing units in the region producing the same product.

### Drafting of the Distribution Aid Survey Report

After the completion of the field work, the data collected are tabulated and the Distribution Aid Survey report is drafted. These reports are brief, covering to 10 to 15 pages. They contain valuable information on the size of the market, general reactions of the dealers and other knowledgeable persons to the quality, price, competitive strength, etc. of the product besides giving specific recommendations or suggestions to the manufacturers to streamline the distribution channels for his product and to adopt better methods of selling based on their observations in the selected markets.

At present, the Distribution Aid Survey Report is prepared in two parts, Part I marked 'Non-Confidential' and Part II 'Confidential'. Part I gives general information regarding the product under survey which will be of use not only to the manufacturer for whom the survey was undertaken but also to the industry as a whole. Part II which is marked 'Confidential' contains specific reactions of knowledgeable persons to the product under survey concerning its quality, price, design, etc. and suggestions for improving the sales through better publicity, more competitive pricing, better packaging, rectification of defects, if any, found in the product, etc.

Generally, more than 100 dealers, wholesale and retail, institutional consumers and other persons are contacted for each Distribution Aid Survey. An appendix giving the names and addresses of all the parties contacted during the survey is attached to every Distribution Aid Survey Report. Parties who show special interest in the product under survey and express a desire to deal in it, the names of such parties are indicated clearly so that the manufacturer for whom the Ditribution Aid Survey is conducted can, if he so desires, contact them either in person or through letters and pursue the matter.

### Number of Distribution Aid Surveys done

So far, more than 250 Distribution Aid Surveys were conducted by the four Small Industries Service Institutes at Madras, Bombay, Delhi and Calcutta and reports thereon have been prepared. The Small Industries Service Institute, Madras, alone, has prepared about 75 Distribution Aid Survey reports. These Distribution Aid Surveys were conducted not only for the small industry products manufactured within the three states comprising the Southern Region, but also for those from Gujarat, Maharashtra, West Bengal, Uttar Pradesh, Bihar and Delhi.

### Items covered

Some of the items covered are given below :

Footwear, Builders' hardware, Brushes, Cutlery, Paper pins, Marking green, Plastiwax, Surgical gloves, Bolts and nuts, Padlock and drawer lock, Plaster of paris, Waxy crayons, Teats and valves, Soaps, Stethoscope, Ani-diet, Poster colours, Mother of pearls buttons, Pencils, Panel pins, Combined bell buzzer, Filling cement, Scissors, Allen cap and grub screws, Engraving glue, Street water taps, Fluorescent chokes, Grease nipples, Wire nails, Machine screws, Nibs, Inks, Industrial adhesives, Field coils, Air cocks, Hand numbering machines, Ball point pens and refills, Pencil sharpners, Axle studs, Shaving brush, Dye-base, Steel trunks, Pomade, French polish, Phenyl, Ragi products, Indian ink, Mohani snow, Coffee tablets and Pump sets.

### Evaluation of Distribution Aid Surveys

It is worthwhile mentioning here that several parties for whom Distribution Aid Surveys were conducted by Small Industries Service Institute, Madras, were greatly benefited by the recommendations/suggestions made in the reports. This was revealed when an evaluation study of the Distribution Aid Survey was conducted by this Institute at the instance of the Development Commissioner, Small Scale Industries, New Delhi. Some of the parties were able to expand their sales and consequently their production considerably, as a result of their implementing the recommendations made in the Distribution Aid Survey Reports. The Small Industries Service Institute, Madras, has received numerous letters of appreciation from several parties, acknowledging the benefits they have gained by implementing some of the recommendations made in the Distribution Aid Survey Reports.

### Regional Market Surveys

Another type of market research done for small industries by the Small Scale Industries Development Organisation is called Regional Market Surveys. These Surveys are, as the term implies, done on a regional basis as in the case of Distribution Aid Surveys for products selected either by the office of the Development Commissioner, Small Scale Industries, New Delhi or by any of the four Small Industries Service Institutes mentioned earlier. These surveys are also patterned on the Distribution Aid Surveys in almost all respects, except that the product selected is not at the request of any particular party but is based on the general scope for its development in the region. The statistical coverage in the Regional Market Survey Report will be considerably larger than that in the Distribution Aid Survey Report. As in the case of the Distribution Aid Survey Report, general recommendations and suggestions are given in the report indicating the scope for development of the industry as a whole in the small scale sector. Several Regional Market Survey Reports have so far been prepared by the four Small Industries Service Institutes. The Small Industries Service Institute, Madras, has prepared three Regional Market Survey Reports in the year 1968-69 on (1) Builders' Hardware; (2) Machine Tools and (3) PVC Footwear.

It is interesting to note that a number of requests are being received by the Small Industries Service Institutes for conducting Distribution Aid Surveys on payment of the usual fee of Rs. 250/-; but owing to the exigencies of other work, the Institutes are not in a position to accept them. This shows the popularity of this type of Market Research undertaken by the Small Industries Development Organisation for the benefit of small industrialists.

## C. CENTRAL GOVERNMENT STORES PURCHASE PROGRAMME

A scheme to assist small scale units in securing Government orders was conceived in 1956 as a part of a comprehensive and integrated assistance programme for the growth and development of small scale industries. The rationale for this scheme, however, is in the fact that Central Government being the single largest buyer of manufactured goods in the country, a scheme aimed at assuring an equitable access to government orders, to small scale units which face a number of handicaps vis-a-vis their large scale counterparts, would go a long way in promoting the expansion of the former sector of industries. Besides, it was considered that such an assistance programme would orientate or attune small scale sector to the production of quality piece goods in conformity with the standards laid down by the buying agencies.

### Assistance Programme for Participation in Government Stores Purchase

It would be useful to recapitulate briefly the important features of the programme. Under this scheme small scale units desiring to avail of assistance, are required to enlist themselves with the National Small Industries Corporation (NSIC). Before enlisting a unit for participation in Government Stores Purchase Programme, the NSIC calls for the recommendations of the Small Industries Service Institutes (SISIs) on techno-financial competence of the unit to produce stores required by the Directorate General of Supplies and Disposals (DGS&D). After undertaking on-the-spot investigations, the SISI recommends or turns down the case for enlistment to the concerned regional liaison office of the NSIC.

Enlisted units are supplied tender sets free of charge by the NSIC Liaison Officers. Besides, no security deposit is called for from the units whose tenders are accepted and whose competence to supply the stores is certified by the Corporation on the recommendation of the SISI.

Price preference upto the maximum of fifteen percent over the lowest acceptable quotation of the large scale unit is also supposed to be given by the purchasing agency on merit of every individual case. This price preference was primarily conceived to initiate small manufacturers to produce in conformity with government standards and enable them to incur such initial costs as may be necessary for the purpose.

The items of government purchases have been divided into four groups as under :

1. Group I—Items which can be purchased from large scale units.
2. Group II—Items which can be purchased from large scale units only but there is the possibility of large scale units subcontracting ancillaries and components to small scale units.

3. Group III—Items which can be purchased both from large scale and small scale units.

4. Group IV—Items which are reserved for purchase exclusively from the small scale units.

Group IV which started with a list of 16 items a decade ago, now includes as many as 166 items (as per annexure enclosed). Besides, an ad-hoc committee has been appointed which would review, from time to time, additional items for inclusion in Group IV list. Year-wise total number of items in Group IV is set out in the table below :

**Items (Group IV) Reserved for Exclusive Purchase from SSI**

| Year | Total No. of Items |
|---|---|
| 1956-57 | 16 |
| 1957-58 | 16 |
| 1958-59 | 16 |
| 1959-60 | 27 |
| 1960-61 | 27 |
| 1961-62 | 46 |
| 1962-63 | 63 |
| 1963-64 | 70 |
| 1964-65 | 72 |
| 1965-66 | 72 |
| 1966-67 | 84 |
| 1967-68 | 110 |
| 1968-69 | 122 |
| 1969-70 | 146 |
| Since March 1970 | 166 |

SOURCE:—Directory of the Enlisted Units with National Small Industries Corportion Ltd. 2. D.G.S. & D's brochure on "Role of Central Purchase Organisation in the Development of Small Scale Industries".

### An Appraisal of the Programme

The Progress of orders secured by small units from the DGS&D through the Corporation, as set out below, reveals that the programme after gathering momentum initially, has become more or less static during the last five years.

TABLE I

| Year | Orders secured by small scale units (Rs. million) |
|---|---|
| 1957-58 | 6.0 |
| 1960-61 | 39.0 |
| 1961-62 | 79.2 |
| 1962-63 | 145.0 |
| 1963-64 | 342.0 |
| 1964-65 | 173.0 |
| 1965-66 | 201.0 |
| 1966-67 | 205.0 |
| 1967-68 | 192.0 |
| 1968-69 | 177.0 |
| 1969-70 | 209.0 |

To enable the Small Scale units to have a greater share in the central purchases, Directorate General of Supplies and Disposals (DGS&D) offers a number of concessions in the following manner :

(i) Where basic consideration like quality, delivery dates, etc. are comparable, the products of the cottage and small scale industries are given preference over the products of other manufacturers in the purchase of Government requirements. In the case of items in which small scale units have established themselves as suppliers to Government on competitive terms, such preference is extended to orders being placed on small scale units to the extent possible before orders are placed on the large scale units.

(ii) The application form for registration with DGS&D is supplied free of cost to *bona-fide* small scale units.

(iii) One of the main requisites for registration as manufacturer with DGS&D is that the firm should possess its own testing facilities. This condition has been relaxed in the case of small scale units who now need not have their own testing facilities but must have regular arrangements with other agencies like Small Industries Service Institute (SISI) in their areas for having their products tested. The contractor has to provide routine testing facilities at his cost. But, in the case of small scale units the possession of independent testing facilities is not insisted upon. If they have a proper access to testing facilities readily available in an adjoining unit, industrial area of the State Government or in an SISI laboratory or in a common testing laboratory provided by some official organisation, the same can be utilised during the course of inspection.

(iv) In the case of Group III items, which can be purchased both from large scale and small scale units, the small scale units are accorded a suitable and reasonable price preference over large scale units upto a maximum of 15% the actual quantum being decided in each case on merits.

(v) The Small Scale units, not registered with DGS&D, have the facility of getting copies of advertised tenders, specifications and drawings in respect of items in which they are interested, free of cost, from the National Small Industries Corporation (NSIC) to whom 50 copies of tender sets are supplied free by DGS&D for circulation to small scale units. However, the small scale units registered with DGS&D are supplied tender forms free of cost directly.

(vi) Normally, a firm not registered with DGS&D is required to deposit 5% of the contract value as security for due performance of the contract. This is, however, not insisted upon in the case of a small scale unit provided it furnishes a satisfactory competency certificate from the NSIC.

(vii) The small scale units registered with Directorate of Industries are entitled to all the benefits allowed to units registered with the NSIC.

(viii) The Director of Industries in all the States are supplied lists of items normally purchased by DGS&D from the small scale units for their reference and benefit.

This list contains information about specifications, drawings and the authorities holding sealed particulars of the stores.

Notwithstanding, the above concessions afforded to small scale units to have a greater share in the central purchases, ever since 1964-65, value of stores purchased from small scale units has fluctuated in the neighbourhood of Rs. 200 million only. This adequately underlines the fact that the assistance programme conceived for participation of small units in the Government Stores Purchase Programme in mid-fifties, has ceased to produce results in terms of progressive increase in the share of small scale sector in the stores purchased by the Government.

*Shri M.R. Krishna, Union Dy. Minister, ID & IT addressing small industrialists at a get-together function arranged by the SISI, Hyderabad.*

Further, the analysis of the purchases of indigenous stores by the DGS&D from large scale and small scale sectors from 1957-58 to 1966-67 reveals that the share of the Central Government purchases going to small scale sector increased from a negligible figure of 1.7% in 1957-58 to a little less than 4% in 1960-61 and to yet a very low figure of 6.5% in 1966-67. This means that small sector which contributes one-third of the total goods manufactured in the country, could obtain only 6 per cent of the total value of orders placed by the Government. Hence there is a need for further strengthening the assistance programme for the participation of small scale sector in Government purchases.

It is true that in the case of a large number of stores, it is not possible for the small scale sector to participate in the supplies, as they are not manufactured by it, nonetheless, the fact remains that even in case of items which are manufactured by both large and small sectors, the proportion of Government orders (say 30 per cent) routed to small scale sector leave much to be desired. Only if the share of small sector in respect of items produced competently by it increases substantially that this sector would indeed be in a position to claim a respectable proportion of the total Government purchases.

Yet another noteworthy characteristic of the Stores Purchase Programme relates to the State-wise dispersal of small scale units engaged in the supply of stores. This is revealed by the figures set out below :

| Year | Out of the total value of orders placed with small scale sector, proportion of orders secured by units in five States* (Per cent) |
|---|---|
| 1962-63 | 88 |
| 1963-64 | 93 |
| 1964-65 | 91 |
| 1965-66 | 87 |
| 1967-68 | 88 |
| 1968-69 | 86 |

*Uttar Pradesh, Punjab, Delhi, West Bengal and Maharashtra

It would be observed from the above figures ever since 1962-63, five states alone accounted for, over 86 per cent of the stores supplied by small scale sector. This points to the fact that the major proportion of purchases from small units continued to forthcome from a few states only.

Region-wise distribution of DGS&D purchases also points to the regional imbalance obtaining in sources of supply. Figures given below reveal that the share of Northern Region (comprising of Punjab, Delhi, Uttar Pradesh, Rajasthan and Jammu and Kashmir) by and large varied between 50 and 60 per cent of the total purchases leaving the rest to be shared by the remaining states. Of the four regions, Southern Region (comprising of Madras, Andhra Pradesh, Kerala and Mysore) has had the least share in the Government Stores purchases and its share has remained confined to not more than six per cent of the total purchases.

REGIONAL DISTRIBUTION OF CONTRACTS RECEIVED BY SMALL SCALE UNITS

**Percentage Distribution of Contracts Received**

| Year | Northern Region | Western Region | Eastern Region | Southern Region | All India |
|---|---|---|---|---|---|
| 1963-64 | 63.0 | 13.4 | 20.6 | 3.0 | 100.0 |
| 1964-65 | 54.0 | 13.1 | 28.9 | 4.0 | 100.0 |
| 1965-66 | 53.0 | 14.0 | 29.0 | 4.0 | 100.0 |
| 1967-68 | 59.0 | 12.8 | 23.2 | 5.0 | 100.0 |
| 1968-69 | 58.5 | 8.9 | 26.6 | 6.0 | 100.0 |

Number of items reserved for exclusive purchase from small scale sector has consistently increased from 16 in 1957 to 166 in 1970. Persistent efforts of the Development Commissioner (SSI) are underway to have this list further enlarged. Nonetheless, the benefit accruing to the small industries on account of this reserved list of items has not been very significant since the items reserved are minor ones and are of low unit value. This is borne out by the fact that notwithstanding the increase in the number of items reserved for procurement from small scale sector, the share of this sector in the Central Government purchases has continued to be below Rs. 200 million since 1964-65.

In spite of the Government intention to accord a reasonable price preference to small scale units upto a maximum of 15 per cent, to enable them to secure an appreciable share of the Government orders, the actual value of orders decided on the basis of price preference has been negligible in terms of percentage, being about 0.08 per cent of the total orders on small scale units. Lack of effective implementation of price preference clause is primarily due to the unwillingness of the indenting offices to make the purchases from the small scale sector at a premium.

**Strategy for strengthening the Programme**

The importance of stores purchase programme for the growth of small scale industries on the one hand and static level of government purchases from small scale sector obtaining for over 5 years on the other, underline the imperative need for strengthening this programme. However while conceiving the future strategy in this context, virtual ineffective working of the provision of price preference and none/too-significant quantum of purchases made in respect of items reserved for small scale sector, need be/kept in view.

The very fact that the provision of price preference which was conceived as an integral part of the "Government Stores Purchase Assistance Programme" has remained unworkable, calls for certain amount of rethinking on this matter. It is necessary that price preference is granted automatically on the basis of product lines rather than on the basis of so-called examination of each individual case on merit. It may be added here that to start with, an annual provision of Rs. 50 million would be adequate for this purpose. Even if the purchases from the small sector get stepped up to Rs. 500 million incidence of price preference would be in the neighbourhood of Rs. 50 million only, since the items which are reserved for small scale sector shall have not to be covered by the provision of price preference.

An important characteristic of small industries growth relates to the diversification of their product mix. More and more items are being very rapidly taken up for production by this sector. It would, therefore, be helpful if the NSIC in collaboration with SSIDO also undertakes to develop the market for new small industry items by impressing on the indenting offices the advantage of including such items in their indents as are produced in small scale sector. For instance, latex foam sponge purchased by the DGS&D from large scale units can be substituted by the products of small scale sector namely polyurethene foam. Towards this end, NSIC will have to select such items in consultation with the SISIs as can serve as suitable if not better, substitutes for some of the items purchased from the large scale sector. Besides, wherever technically feasible, constant efforts need be made by the SISI to promote small scale units for the manufacture of stores which continue to be supplied by the large scale sector alone.

State-wise and region-wise distribution of contracts placed with small units has revealed that the mode of purchases has not contributed to any appreciable degree towards the fulfilment of socio-economic objective of dispersal of industrial activity. It is, therefore, in the fitness of things that the DGS&D should consider *de-novo* the possibilities of purchasing large number of stores on a decentralised basis. Such a step would indeed go a long way in stimulating the growth of dispersed industrial activity.

# SMALL INDUSTRY EXPORTS

## A. PROSPECTS OF EXPORTS TO AND JOINT VENTURES IN AFRICAN COUNTRIES

AFRICA is the largest potential market for export trade amongst the developing countries of the world. The African continent comprises about sixty different countries and territories—large and small. The total area of the continent is about nine million sq. miles which is nearly 22.4 percent of the total land area of the world and inhabited by a population which is about 8.5 per cent of the world population. The gross domestic production of the continent as a whole constitutes only 2 per cent of the global output. Agriculture is the mainstay of the economy of the countries of Africa and it accounts for about 40 per cent of the National Income while the share of the industrial output is only 10 to 15 per cent. The average per capita income is $ 120 i.e. about one tenth of the level in industrially advanced countries. Agricultural products and a variety of valuable minerals, the main resources of the continent, are the chief sources of income and exploitation of these resources provides employment to a major section of the population. In fact African countries account for 30 to 35 percent of world production of coffee and peanuts and 80 per cent of cocoa. The share of the continent in the world's export trade of the above mentioned primary products is very substantial and in many cases even exclusive.

Mining is next in importance to agriculture. Minerals like gold and diamond account for 80 per cent of the world production. The African countries have also a major share in the world's production of chromium, copper, cobalt, thorium and vanadium ore, asbestos, bauxite, lead, manganese, zinc etc. Despite these resources, almost all the countries of Africa are still in their initial stages of economic and industrial development. The relatively slow progress has been mainly due to a lack of experience in planning, dearth of entrepreneurial, managerial and technical skills and limited exploitation of the local and foreign markets.

There is no doubt that in most of the countries, the African leaders are keenly interested in transforming their traditional economies into modern ones. The present Governments are strongly supporting the general industrial development of their countries by adopting growth-oriented national plans of development, filling in gaps in enterprise and finance in cases where private African capital and enterprise have not been forthcoming. In African countries, development plans have followed close on the heels of political independence. A more rapid growth of national income could be achieved by changing the structure of their national economies, by a well planned shift from primary and secondary occupations to tertiary occupations. This objective has, however, been attained partially. At present in most of the countries, the emphasis is on the processing of agricultural commodities and minerals. However, there is also very good scope for the development of small scale industries and they can take advantage of the growing demand for a number of goods and services in many countries of Africa.

The pattern of trade of most of the African countries is dominated by traditional economic ties with developed countries, particularly U.K. and France, and a major share of the imports and exports trade in the African countries is still controlled by them. Exports from India to the African markets are not significant and constitute only one per cent of the total world exports. India's exports of major commodities to African countries are given in Table I.

At present India is not having trade relations with all the countries of Africa. India's foreign trade is mainly confined to thirty one countries of the African continent. The countrywise break-up of our exports is given in Table II.

TABLE I

**India's Export of Major Commodities to African Region**

| Commodities | (Figures in Rs. lakhs)[1] | |
|---|---|---|
| | 1967-68 | 1968-69 |
| 1. Spices | 156 | 159 |
| 2. Tea | 1,673 | 1,374 |
| 3. Tobacco manufactured | 63 | 189 |
| 4. Cereal and cereal preparations and dried leguminous vegetable and flour thereof | 19 | 77 |
| 5. Crude vegetable materials | 33 | 35 |
| 6. Cotton yarn and thread | 202 | 161 |
| 7. Fabrics of art silk synthetic fibres and spun glass | 52 | 112 |
| 8. Cotton piecegoods | 942 | 785 |
| 9. Made-up articles wholly or chiefly of cotton | 215 | 311 |
| 10. Textiles handprinted | 49 | 41 |
| 11. Rubber manufactures | 61 | 138 |
| 12. Paper, paper board and manufactures thereof | 83 | 98 |
| 13. Jute manufactures | 1,323 | 869 |
| 14. Manufactures of metals | 121 | 259 |
| 15. Iron and Steel | 415 | 361 |
| 16. Machinery, other than electric | 190 | 324 |
| 17. Electrical machinery, apparatus and appliances | 87 | 261 |
| 18. Transport Equipment | 124 | 409 |
| 19. Clothing | 97 | 188 |
| 20. Footwear | 25 | 39 |
| 21. Developed Cinematographic films | 60 | 60 |
| 22. Misc. manufactured articles | 67 | 140 |
| 23. Postal packages | 42 | 35 |
| 24. Special transactions | 29 | 6 |
| Total of above | 6,128 | 6,431 |
| Others | 690 | 890 |
| Grand Total of Exports to Africa | 6,818 | 7,321 |

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[1] Rs 10 lakhs = Rs. 1 million

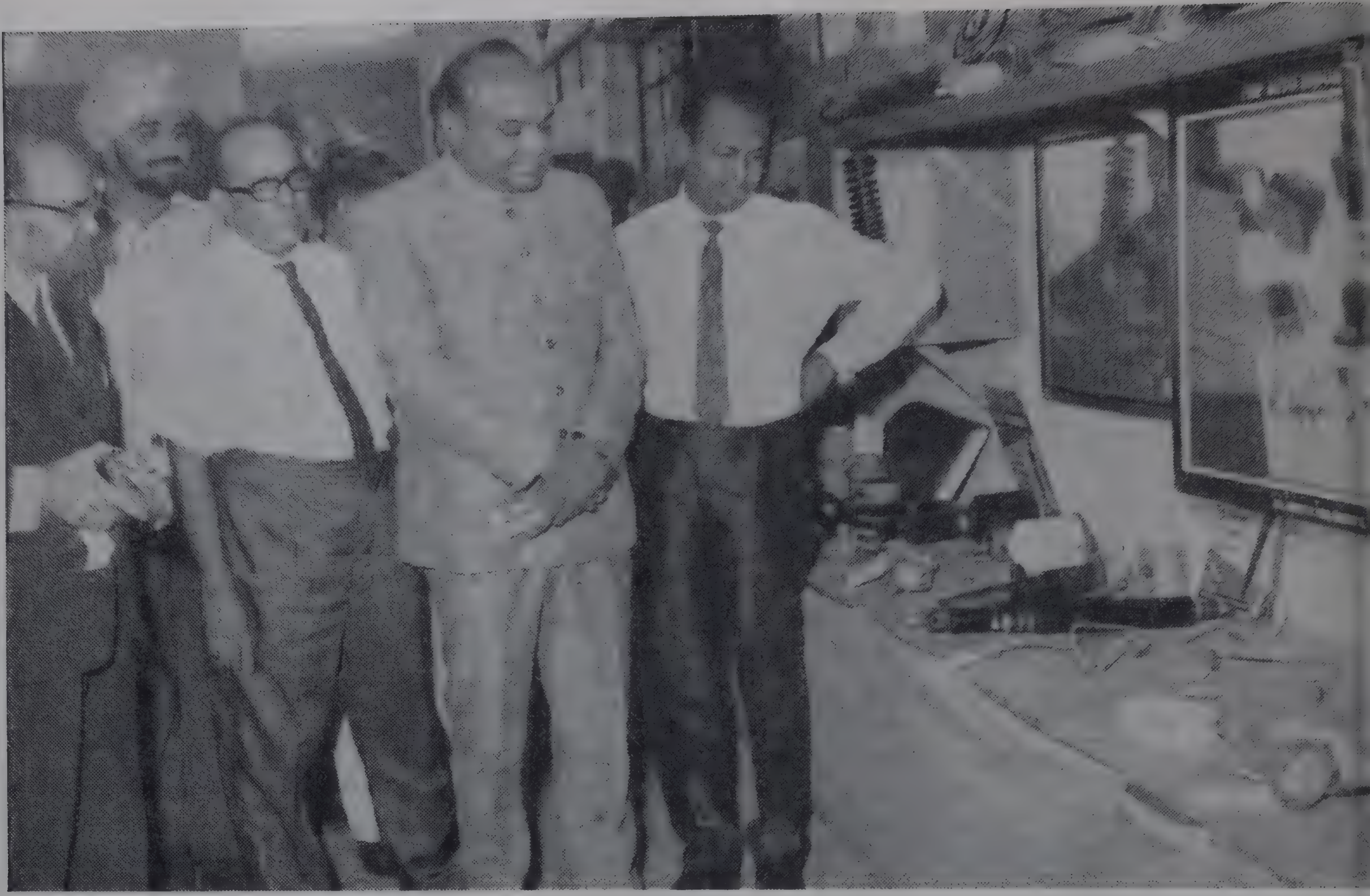
TABLE II

**Exports**

| S. No. | Major countries | Value in Rs. millions | |
|---|---|---|---|
| | | 1968-69 | 1969-70 |
| 1. | Algeria | 2.1 | 5.1 |
| 2. | Cameroon | .4 | .6 |
| 3. | Canary Island | 1.0 | 1.3 |
| 4. | Congo (Brazzaville) | .2 | .5 |
| 5. | Congo Democratic Republic | .2 | .5 |
| 6. | Dahomey Republic | .1 | 1.3 |
| 7. | Ethiopia | 22.5 | 22.7 |
| 8. | Gambia | 1.0 | .9 |
| 9. | Ghana | 11.6 | 11.2 |
| 10. | Ivory Coast Rep. | 1.2 | — |
| 11. | Kenya | 81.2 | 77.5 |
| 12. | Liberia | 1.4 | 4.7 |
| 13. | Libya | 14.5 | 12.4 |
| 14. | Madagascar | .9 | 1.2 |
| 15. | Malawi | 7.8 | 14.1 |
| 16. | Mauritius & Dependencies | 13.2 | 11.3 |
| 17. | Morocco | 4.0 | 9.1 |
| 18. | Nigeria | 30.8 | 28.1 |
| 19. | Other East African countires | 2.5 | 2.0 |
| 20. | Senegal | .7 | .5 |
| 21. | Sychelles | 1.5 | 1.6 |
| 22. | Sierra Leone | 12.5 | 13.5 |
| 23. | Somalia | 9.1 | 6.5 |
| 24. | Sudan | 1,84.7 | 1,98.5 |
| 25. | Swaziland | 1.1 | 4.8 |
| 26. | Tanzania | 49.4 | 40.7 |
| 27. | Tunisia | 14.5 | 18.0 |
| 28. | Uganda | 22.4 | 22.6 |
| 29. | U.A.R. | 2,18.2 | 3,46.3 |
| 30. | West Africa Spanish | 3.2 | 3.0 |
| 31. | Zambia | 12.4 | 16.4 |
| | Total | 7,29.5 | 8,76.9 |

**Trade Relations**

During the years 1967-68, 1968-69 and 1969-70



*Big or small, a complete product or a component, they have a market both within the country as well as abroad. Picture shows a panel of automobile components in the permanent exhibition at SISI, Bombay. Shri Aba Saheb Deshmukh Parwekar, State Minister for Industries, Government of Maharashtra, is going round the exhibition.*

India's imports from African countries have been of the order of Rs. 943 million, Rs. 1482 million and Rs. 1414 million respectively, while corresponding exports to these countries were at the level of Rs. 702 million, Rs. 728 million and 881 million. The main items imported by India have been copper, copra, cotton, palm oil, pearls, precious and semi-precious stones, lead and zinc. Important among the goods exported from India to the African countries are cotton piece goods, cotton yarn and thread, jute manufactures, spices, tea and tobacco unprocessed, iron and steel, machines both electric and non-electric, transport equipment and number of other engineering goods.

As would be evident from the above tables, there is a great need for stepping up exports from India to African countries and also for participating in their economic development. There is scope for both, since a number of these countries have embarked on a programme of industrial development and they need not only external assistance and co-operation, but also capital goods and a variety of consumer goods which can be exported to these countries. The scope for increasing the exports of non-traditional items, particularly engineering goods, chemical and allied products, remains still largely unexplored. The total exports to Africa have been varying between Rs. 700 and 880 million since 1966-67 while our imports have risen from Rs. 860 million in 1966-67 to Rs. 1480 million in 1968-69. However, in 1969-70 the imports have come down to some extent. The position improved a little during 1969-70 as the trade deficit declined to Rs. 530 million from Rs. 760 million in 1968-69. It is partly on account of reduction in our imports and marked improvement in our exports.

The question is not merely one of closing the trade deficit, but of exploiting successfully the vast scope for exports offered by the African markets. At present our major exports are mainly confined to a few African countries such as U.A.R., Sudan, Kenya, Tanzania, Ethiopia, Ghana, Libya, Uganda and Zambia. U.A.R. alone accounts for 40 percent of the total exports from our country, indicating a lopsided development of our export trade in Africa. There are, no doubt, many inhibiting factors on our side. Apart from the quality and price of our products, export credit, aftersales service, salesmanship etc., the exporters are also handicapped due to the lack of adequate commercial information and the difficulty in getting tender documents. It is, therefore, essential to make a thorough study of the exportable non-traditional items that we can sell in Africa on competitive terms.

Collaboration in industrial ventures will have the maximum economic advantage and it is through a positive programme of assistance in the industrialisation of the African countries that India can foster goodwill and strengthen her economic bonds with the countries in that continent. It is not that India does not possess the technical skill or the planning machinery to undertake such ventures. In fact over the years India has built up the necessary expertise. What, however, is essential, is a study in depth of the economies of the countries concerned and the identification of fields, where Indian entrepreneurs could set up joint collaboration ventures.

Another direction in which India can assist the African countries is the offer of technical personnel and consultancy services in a variety of fields and this will to some extent reduce the trade gap. It is high time, a concerted drive is made by all those concerned to work out detailed programmes for the mutual benefit of African countries and India.

As a senior member amongst the developing countries, India, where the level of industrial development is comparatively higher, is in a position to offer the necessary technical and consultancy services, capital goods and also a wide range of other non-traditional items, the manufacture of which do not involve very high sophisticated technology. Moreover, with its diversified industrial base, India can play a very significant role in fostering trade and economic partnership with Africa.

### Joint Ventures

In the field of industrial collaboration considerable initiative has been shown by Indian entrepreneurs in setting up joint ventures in certain countries of Africa. To date, 11 joint ventures have actually been established out of 34 so far approved by the Govt. of India in the countries given in Table III.

TABLE III

| Country | Joint ventures approved | Joint ventures established |
|---|---|---|
| 1. Ethiopia | 9 | 4 |
| 2. Ghana | 1 | — |
| 3. Kenya | 9 | 5 |
| 4. Mauritius | 1 | — |
| 5. Nigeria | 6 | 2 |
| 6. Tanzania | 2 | — |
| 7. Togo | 1 | — |
| 8. Uganda | 2 | — |
| 9. Zambia | 3 | — |
| | 34 | 11 |

These joint ventures cover the production of a wide variety of items such as textiles, food products, pharmaceuticals, various kinds of engineering goods etc. Indian entrepreneurs are also keen on setting up industries, not only those based on locally available raw material, but also those which can help in import substitution. Building up of power, transport and communication facilities is a common feature of the development plans of the different countries. Many of them have also massive programmes for housing. There are, therefore, good prospects for exporting a large number of items from India.

The East African countries offer valuable opportunities to Indian investors in a large number of industries such as plastic goods, pharmaceutical products, light and heavy engineering items including agricultural machinery and tools, car batteries, electrical bulbs, assembly of electrical motors and diesel engines, household appliances, brass sheets etc. Apart from capital participation and export of technical and managerial know-how, there is also a great potential market for our capital and intermediate goods like plastic processing machinery, pharmaceutical equipment, non-ferrous and ferrous rolling mills, power presses, machine tools, electrical control and switch gear, process control instruments and a host of intermediate and auxilliary products, components and parts.

The West African and South East African countries which are rich in agricultural resources like groundnut, sesame seeds, cotton seeds, palm kernel, sugarcane etc. have plans for setting up oil mills, solvent extraction plants, hydrogenation plants, soap factories, sugar mills, distilleries etc. based on these resources. There is, therefore, very great potential demand for machinery, equipment, spares and also for technical know-how necessary to implement these plans.

Similarly, the central African zone which is blessed with extensive deposits of highly valuable minerals like gold, cobalt, chromate, copper, zinc, bauxite etc. is rapidly changing its position as an exporter of raw minerals and is emerging as a vast complex of mineral processing and metal extraction industries, perhaps second to none any where in the world. This massive development effort naturally involves a sizeable investment on mining machinery and equipment such as dressing plants, metal extraction plants, metal rolling and extruding mills. Here again is another opportunity for India to participate in this development in a fruitful way.

India has to accept the challenge and should play a befitting and major role in strengthening the trade and economic cooperation with the African countries. While doing so, the approach should be dynamic in the real spirit of economic cooperation for mutual benefit consistent with the aspirations of the people of those countries.

In this conection, it is suggested that trade delegations and study teams should continue to be sent out from time to time to study the possibilities of exports and economic cooperation with the African countries. Moreover, it is necessary to keep liaison with the various Export Promotion Councils and other agencies in Africa such as Economic Commission for Africa, East African Community and the African Development Bank. These Organisations could help India by apprising her of the scope for the exports of various items to different countries in Africa.

The absence of a direct shipping service with most of the African countries is a great handicap which not only restricts a regular flow of goods but also adds to the cost of the goods on account of high freight rates. It is high time that appropriate measures are taken by the authorities concerned to improve the shipping services between India and the African countries.

## B. EXPORTS OF SMALL INDUSTRY PRODUCTS FROM INDIA

Small Industry products occupy quite an impressive position in the exports of developing as well as developed countries. Products of Small Industry Sector account for 40-50 per cent of the total exports from Japan and from Italy. These are of distinguishable magnitude in respect of China (Taiwan) too. Exports of Indian Small Industry products (excluding handicrafts and handloom products) have made a promising beginning and offer considerable potential for further development both horizontally and vertically. Harnessing of this potential, however, underlines the need for providing certain aids and intensifying others that are already in vogue. It is advisable that Small Scale Industries are assisted to contribute towards country's exports to the extent which is at least commensurate with their share in the total industrial output. Discussion of the subject in this article has been restricted to three heads :

**(I) Export Performance, (II) Export Prospects, and (III) Aids/Assistances for Export Production and Marketing.**

### (I) Export Performance

No census has so far been undertaken to determine the magnitude of exports of small industry products; it is, therefore, not possible to indicate with exactitude the contribution made by these industries in the exports of manufactured goods during the recent years. The published sources of information on exports, also do not indicate the exports by the size of industrial units. There are, however, a few indicators of export contribution made by small industries in respect of different end-products that include sophisticated as well as simple types of items. These are mentioned below by different industry groups: i.e. mechanical engineering industries, electrical engineering industries, chemical industries and other non-engineering industries.

*Mechanical Engineering Industries*

Exports of mechanical engineering goods (excluding metals) have recorded a phenomenal increase during the last decade; they rose from Rs. 60 million in 1960-61 to Rs. 638 million in 1969-70. These are estimated to touch Rs. 1,300 million by the end of 1973-74. These exports have got considerably diversified by items and destinations. More than 100 engineering products are being exported to different countries in different parts of the world. By and large Indian items are of acceptable quality in the international market. The bulk of the exports is no doubt handled by a few large firms. Of the firms engaged in the export of engineering goods the first 100 firms accounted for over 70% of the total exports (say) valuing Rs. 414.8 million in 1965-66 while the next 400 in rank were responsible for about 30% of the total exports. However, ever since that year, larger

*Hosiery knitting machines in operation in a small scale unit (at Ludhiana) which is a leading exporter of hosiery goods to USSR.*

concentration of imports in a fewer hands is expected to have taken place. This trend is not peculiar to India alone. In U.K. about 50% of the exports of mechanical engineering products are reported to have been contributed by 227 firms. Such a concentration of exports is explained, firstly, by the replacement of simple types of export goods by the complex ones which are much more capital-intensive than the former; and secondly, because export business requires large scale economies in marketing, backed by an adequate market research and developed selling expertise.

The above account need not suggest dwindling future prospects for the exports of small manufacturers' products since in addition to their direct contribution to exports in the form of finished goods, they also help boost up exports indirectly by supplying parts and components as ancillaries to large scale units which in turn export the assembled products. Small industry exports of finished goods comprise goods which are almost exclusively manufactured in the small scale sector and secondly those which the small enterprises manufacture side by side with the large ones. The former category of finished products includes paper pins and gem clips, link clips, spindle inserts, grease nipples, hair clippers, spectacle hinges, press buttons, garment buckles, mechanical toys, wire netting and wire mesh, expanded metals, barbed wire, rolling shutters, spring washers, machine screws, snap fasteners, pressure cookers, oil pressure stoves, stapling machines, hair pins, flexible metallic tubing, diamond tools, machine shop vices, conduit pipes, steel furniture, etc. A number of these products figure in the export list of mechanical engineering goods to different countries. It is not possible to give the exact figures of their exports due to the absence of uniformity in the nomenclature and coverage of items given in the Annual Survey of Industries and the Monthly Statistics of Foreign Trade of India. It has been, however, estimated that the exports of 14 products, which are separately specified in the Monthly Statistics of Foreign Trade of India, amounted to Rs. 5.99 million during the period April 1969 to February 1970. Of these 14 products, wire netting (iron and steel), steel furniture, oil pressure stoves of copper and alloys and barbed wire were the substantial export items, accounting for Rs. 5.47 million i.e. about 92 per cent of the relevant total. Expanded metals also earned Rs. 0.27 million worth of foreign exchange during these months. Others were new items to enter the export markets and their foreign exchange earnings were less than Rs. 0.1 million in each case. Most of these exports were destined for a number of countries in Asia and Africa and some of them found markets in the developed countries also.

Of the export products manufactured in the large as well as small scale sectors, the prominent ones are diesel engines, bicyles, and bicycle parts, machine tools, sewing machines, etc. Exports of diesel engines rose from Rs. 0.79 million in 1956-57 to Rs. 3.96 million in 1960-61, Rs. 10 million in 1963-64 and Rs. 25.5 million (including pump sets) in 1969-70. These consisted mostly of irrigation pumps in the beginning; today, these include large diesel pump sets for irrigation and fire fighting operations, welding generators and stand-by and automatic main feature diesel generating sets. These were destined for 41 different countries all over the world. The small scale units of this industry in Ghaziabad (U.P.) and Gujarat contribute appreciably towards these exports. From Ghaziabad (U.P.) engines worth Rs. 0.5 million were exported to Afghanistan and Middle East countries during 1966-67. In 1965, small scale units manufactured more than 20,000 diesel engines, that is, about one-fifth of total production of such engines in the country.

Bicycles and bicycle parts were exported to the tune of Rs. 46.3 million in 1969-70, as against Rs. 41.3 million in 1965-66. The small sector mainly contributes towards exports as the supplier of bicycle parts. It had an installed capacity of bicycles worth Rs. 610,000 as against Rs. 1,640,000 in the large scale sector in 1966. But its capacity for manufacture of bicycle parts was at 32,942,000 in number compared to 3,329,400 in the large sector in 1967. The small manufacturers in this industry group have set up a bicycle export pool to contribute as much as possible to the exports of bicycle and bicycle parts. This pool proved useful to them in exploring the export outlets for their products. Some of them undertake export business of their own, mostly through their representatives visiting the neighbouring countries and maintaining regular contacts with the importers there.

Machine tools were exported to the extent of Rs. 27·6 million in 1969-70. Small units manufacturing machine tools account for not less than two-thirds of the total number of units in this industry. In the registered factories sector, the small factories were 401 in number, of which 384 had the gross output valued at Rs. 94·3 million and the value added by manufacture at Rs. 29·2 million in 1966. These factories manufacture a variety of complex machine tools, some of which are being exported. Besides, there is a large number of unregistered small scale units manufacturing a variety of machine tools of comparatively simple type, some of which also are exported to the neighbouring countries. In the composition of production cost of machine tools, wages constitute by far the most important component in so far as this element of cost alone accounts for about 50 per cent of the total cost of production. This characteristic of production cost favours a sizable participation of small scale units in production and also in exports of machine tools, labour being relatively cheap in our country.

### *Hand Tools and Small Tools*

Small scale units contribute especially to the exports of hand tools and small tools (including tools for agriculture and forestry). Their exports registered a marked increase from a meagre figure of Rs. 2.0 million in 1960-61 to Rs. 16.9 million in 1967-68 and Rs. 27·8 million in 1968-69, though they declined to Rs. 26·6 million in 1969-70. Their major export markets are U.S.A., Czechoslovakia, U.K., Kenya, Iran, Iraq, Nigeria, Sudan and Ceylon. The registered small factories of this industry numbered 145, of which 138 reported the productive capital of Rs. 38.5 million, gross ex-factory output at Rs. 49.0 million and value added by manufacture at Rs. 15.2 million. The total production capacity in large scale sector was estimated to range between 4,000 to 4,500 tonnes in 1967. Though the figures of the large and the small factories on a comparable basis are not available, nonetheless, small sector dominates in certain categories of hand tools like hammers. The small industry's share in the exports of hand tools and small tools is in fact quite appreciable and quite a few of them manufacture items of quality standards acceptable in international markets.

The sewing machines industry stepped up its exports from Rs. 3.50 million in 1960-61 to Rs. 4.23 million in 1966-67 and Rs. 5·37 million in 1968-69 and Rs. 8.56 million in 1969-70. Our major export markets for this item are U.K., Afghanistan and Ceylon which imported sewing machines from India of value of Rs. 1.02 million, Rs. 0.56 million and Rs. 0·48 million respectively, during April 1969 to January 1970. Though difficult to quantify the share of small scale units in these exports, it is, however, reported to be substantial for the reason that more than 200 small units manufacture about 45,000 sewing machines per month in the country. As early as 1965, there were 212 small scale units with a production capacity of 204,290 (Nos.) as against 9 large scale units with a capacity of 470,000 (Nos.). Of the total small scale units, 92 were the registered factories and among them 90 factories reported productive capital at Rs. 8.75 million, gross ex-factory value of output at Rs. 20.42 million and the value added by manufacture at Rs. 6.13 million in 1966.

In short, there are 12 items of mechanical engineering industry group which account for nearly 82 per cent of the total increase in exports amounting to a little over Rs. 420 million in 1968-69 over the preceding year. Such items include auto-parts, bicycles, and bicycle parts, small cutting tools and hand tools, diesel engines and parts, machine tools, etc. Since these are being manufactured to an appreciable extent in the small scale sector, it will be realistic to infer that the small scale sector's contribution in the export of these items should be significant in magnitude.

### *Electrical Engineering Goods*

A number of items belonging to electrical engineering group are also predominently manufactured in the small scale sector. These include electric call bells, electric irons, metal clad switches, domestic wireless receivers, loud speakers, amplifiers and tape recorders, etc. These items are exported in varying quantities and a few prominent export items are discussed below.

### *Radios and Parts*

The export value of radios and components shot up from Rs. 4·26 million in 1968-69 to Rs. 12.73 million in 1969-70. The bulk of their production, as mentioned above, emanates from the small sector which had 1124 units with a total installed capacity of Rs. 182.2 million as against 20 large scale units with the installed capacity of Rs. 878 million in 1964-65. Of the 85 registered small factories manufacturing radio receivers including amplifying and public address equipment 78 reported their productive capital at Rs. 18·23 million, gross ex-factory value of production at Rs. 70·92 million and the value added by manufacture at Rs. 17·73 million in 1966. Some of these factories have exported their products and earned acceptability in export markets.

Electrical accessories and appliances were exported to the tune of Rs. 10·34 million in 1968-69 and Rs. 8.39 million in 1969-70. Wooden electrical accessories are almost entirely manufactured in the small sector. Electric irons and call bells too are predominantly manufactured in this sector. It can be inferred on this account that the small scale units contribute to the exports of electric accessories and appliances, particularly electric toasters, water heaters, etc.

### *Electric Fans and Parts*

The Indian electric fans have become a household name in the world markets. Export of electric fans and their parts rose from 18·66 million in 1968-69 to Rs. 21·34 million in 1969-70. Ceiling fans account for not less than 90 per cent of the total exports of electric fans. Their exports increased to 130157 (nos.) valued at Rs. 12·54 million during April 1969 to February 1970. Other types of fans also figured in the export list, but in less significant quantities.

In 1966, there were 61 small registered factories, of which 48 had a productive capital at Rs. 2.66 million gross ex-factory value of production at Rs. 64.10 million and the value added by manufacture at Rs. 18.73 million. The census of small scale units of this industry, employing not less than 50 workers with power and 100 workers without power and having capital investment upto Rs. 0·5 million account for about 29 per cent of the total production in the census sector in 1963. Their share is expected to have increased further both in the total output as well as in the exports of fans. The small scale units supply extensively the parts and components of electric fans assembled by large scale units for export.

Some of them are reported to be exporting certain special types of fans to certain countries.

*Electrical Lamps*

Exports of electrical lamps more than doubled from Rs. 2.19 million in 1968-69 to Rs. 5.45 million in 1969-70. These lamps are being manufactured in the small sector also. In 1966, there were 42 small registered factories of which 40 factories had a productive capital amounting to Rs. 12·19 million, gross ex-factory value of production at Rs. 17.91 million and the value added by manufacture at Rs. 5.94 million. In 1963, the census of small scale units, accounted for about 10 percent of the total production of electrical lamps in the census sector. The actual share of the small sector of this industry must be higher than this figure, because the census sector does not include small units (having machinery and equipment not exceeding Rs. 0.75 million in value) employing more than 50 persons with power and 100 persons without power. It will not, therefore, be unrealistic to infer that the small scale units of this industry have a significant share in the exports of electrical lamps.

*Non-Engineering Industries*

*Chemical:* In this group the principal exports consist of drugs and pharmaceuticals; dye stuffs; coaltar chemicals; basic chemicals; paints and varnishes; lacquers; soap; cosmetics; toiletries and aggarbaties. Export of these items have cosiderably increased over the last few years, for instance, exports of drugs etc., improved from Rs. 20·08 million in 1963-64 to Rs. 53.47 million during April 1969 to February 1970, dye stuffs earned foreign exchange worth Rs. 14.74 million during 1969-70 (10 months) as compared to Rs. 1·34 million only in 1963-64. Exports of basic chemicals almost trebled from Rs. 7.45 million in 1963-64 to Rs. 20.64 million in 1968-69; and exports of soaps etc. also doubled in value from Rs. 8.37 million in 1963-64 to Rs. 17.22 million in 1968-69 and Rs. 15.2 million during 1969-70. Packing/wrapping paper also earned foreign exchange to the tune of Rs. 0.49 million during 1969-70 (10 months). Except basic chemicals, all other export items of chemical industries mentioned above are produced in the small scale sector. It will, therefore, be useful to attempt to estimate the share of small industries sector in the exports of the chemical products other than basic chemicals that account for nearly one-third of total production.

*Dye Stuffs:* There are about 120 small scale units manufacturing dye stuffs and intermediates as against 21 large scale units. Their production in 1966 was about 3138 tonnes, including all the important groups of dyes. The small units of this industry are chiefly concentrated in Maharashtra which accounted for about two-thirds of the total production in this sector. Some among them are comparable to the large scale ones in organisation and level of technological competence. They are no longer confined to the manufacture of simpler types of dyes; they have rather taken up manufacture of a number of complex and modern dyes since 1961. As such their participation in export of dye stuffs to a limited extent, is understandable.

*Soap:* Small Scale units of soap industry generally manufacture laundry soap. In 1966, there were 2810 units with an installed capacity of about half a million ton and producing nearly a quarter million ton as against 61 large scale units with the corresponding figures of 0·24 and 0·18 million tons, respectively. Exports of household laundry soap are mainly to Nepal, Afghanistan and Sudan which amount to Rs. 1.56 million during April 1969 to February 1970.

*Paints and Varnishes:* Paints and varnishes constitute good prospective export items. Their exports rapidly rose from Rs. 2.28 million in 1965-66 to Rs. 3·76 million during April 1969 to February 1970. Ready-mixed paints, stiff or paste paints, varnish paints, varnishes, and other types of paints, are being manufactured in the large as well as small scale sector. In 1965-66 there were 436 small scale units with the installed capacity of 185,000 metric tons as against 50 units registered with the D.G.T.D. with the capacity of 106,000 metric tons. Apart from the fact that total installed capacity is larger in the former sector than that in the latter sector, certain varieties of paints and varnishes have been reserved for future expansion in the small scale sector. These two facts lend sufficient support to the appreciable contribution reported to have been made by the small scale sector of this industry to the mounting exports of these items.

Certain chemical items like plaster board, polythene-tubing, paper cones and tubes, corrugated paper board, paper products used in packaging, sensitised paper, ball point pens and refills, absorbent cotton, safety matches, black insulating tape and plastic goods are predominantly manufactured in the small scale sector. A number of them are being exported though their export values are not separately recorded. It is, however, found from export statistics that absorbent cotton was exported mainly to Thailand and Saudi Arabia to the tune of Rs. 0.29 million. During the period April 1969 to February 1970 safety

*A panel of the permanent exhibition of small industry products at SISI, Ahmedabad. Many of these items are currently exported.*

matches were exported to Afghanistan and U.K. valued at Rs. 0.39 million; fountain pens to U.A.R. Sudan, Kuwait and Lebanon valued at Rs. 2.03 million, ball point pens including stylograph pens and pencils to Iran, Kuwait and Fiji valued at Rs. 0·29 million; tooth paste to Hungary and Czechoslovakia valued at Rs. 0·48 million; thermo-meters (clinical) to Philippines and Canada valued at Rs. 0·47 million; Photographic materials to Nepal, valued at Rs. 0.6 million; packing paper/wrapping paper valued at Rs. 0 5 million; and corrugated paper valued at Rs. 11,000. Articles of plastic materials valued at Rs. 10.42 million were also exported during this period. Though the export value of these items added together does not make a very significant figure, it is however, an evidence of the fact that these products, which are almost entirely or mainly produced in the small sector, are being exported and have been accepted in international markets. Moreover, besides this qualitative aspect, it is evident that small scale sector has helped in diversifying the list of export items.

### *Other Non-Engineering Industries*

Small scale industries made a very significant contribution in export of such non-engineering goods as sports goods, leather footwear, ready-made garments including hosiery products and preserved fruits. Small scale sector is responsible for the bulk of production of these items and their estimated contribution to the total exports are analysed below.

*Sports Goods*: Export of sports goods accounted for Rs. 10.0 million in 1967 and Rs. 8.5 million in 1969-70 (estimated). U.K. and U.S.A. are the main importers of Indian sports goods, accounting for nearly one-third of the total exports from the country. Indian goods have found increasing acceptability in the East European Countries and also in the countries of South East and West Asia, besides a few West European countries. The most important export items of this industry are footballs and leather balls, contributing nearly 40 per cent to the total export value. These exports have gained reputation for their excellent finish, craftsmanship, durability and competitive prices.

The industry is labour-intensive and predominantly belongs to the small and cottage sector. Small scale units of this industry were responsible for production amounting to Rs. 40 million in 1966, accounting for the bulk of total production and exports of sports goods. As a result of attempts made towards mechanisation of this industry by the SSIDO and other related agencies, the small sector of this industry has geared its production patterns and plans to new requirements of the export markets. The Sports Goods Export Promotion Council and many of the manufacturing firms have lately been engaged in procuring specifications and information on machinery required for production of such export items as football, rackets, fish reels, latex rubber bladders and cricket bats.

*Leather and Leather Manufactures:* Leather Industry has diversified its exports during recent years. From a traditional exporter of raw hides and skins, by the utilisation of scientific process, modern techniques and machinery, India is now a competitor in the world market for chrome leather, finished, leather, leather footwear, leather goods, furs, bristles, animal casings and other slaughter house by-products. Enormous supply of raw materials, traditional skill and adaptability towards modern techniques have imparted competitiveness to Indian products. Exports of items included in this category rose from Rs. 282.19 million in 1967-68 to Rs. 314.10 million in 1968-69. Total leather and leather manufactures (excluding footwear) were exported to the tune of Rs. 688 million in 1969-70. East European markets have emerged as significant buyers of India's leather manufactures and accounted for more than one-half of the total export of principal items mentioned above in 1969-70.

Leather footwear exports rose to 5.57 million pairs valued at Rs. 71.0 million in 1968-69. These exports constitute no doubt a very small fraction of total production of leather footwear in the country. They accounted for only 3.3 per cent of the total production in 1965-66 and are expected to claim at least 6.3 per cent of the same by 1970-71. Small scale units are no doubt responsible for the bulk of production of leather footwear in the country but their share in total exports was very small at 1.5 per cent in 1965-66 and is expected to touch 2 per cent mark by 1970-71. The actual share of these units in total exports can be gauged properly if the products manufactured by them for the large scale exporters on contract basis are also taken into account. The quantities of such products are estimated to be sizable. Leather footwear exported through State Trading Corporation are mostly from the small sector.

*Ready-made Garments:* Ready-made garments made of cotton, wool, silk, rayon, decoron and terelyne in pure or mixed from are also being increasingly exported. Their exports rose from a small figure of Rs. 1.5 million in 1959-60 to Rs. 33.0 million in 1968-69 and are estimated to have touched a new peak of about Rs. 80 million in 1969-70. Small scale sector (including cottage sector) has contributed to these exports in a significant measure. Out of the total estimated number of 1000 manufacturing units of this industry, 200 are small scale units and 740 cottage units. On the basis of statistics relating to the units of this industry in Maharashtra which is the main centre of this industry, 55 small units accounted for about 60 per cent of the total production of ready-made garments there in 1967. It is true that certain items of readymade garments are predominantly exported and they are produced by the large and medium scale units. The small units have significant share in the exports of garments of general type. In respect of the exports of certain specialised garments, the small scale units are almost the sole suppliers.

*Woollen Hosiery:* Woollen hosiery products are being manufactured and exported by the small scale units in large quantities. Exports of these items increased from Rs. 13.02 million in 1964-65 to Rs. 52·63 million in 1969-70. Indian hosiery items are quite popular in USSR, Czechoslovakia, Poland, Libya, Hong Kong, Sudan, Kuwait, etc. Woollen hosiery are suitable for manufacture on small scale, thus ensuring a quick adaptability to the changing pattern of demand.

*Processed Foods:* Exports of preserved fruits and vegetables was to the tune of 6189 tons (Rs. 18.4 million) in 1967-68. The chief items of export in this category are mango juice, mango pickles and chatnies, dried mushrooms, etc. Earlier, a target of Rs. 223 million of exports of preserved fruits was fixed for 1970-71. There are about 1000 units of different sizes engaged in fruit processing and their total annual output has been in the region of 0.1 million tons. As against 9 to 10 large scale units there are about 60 small scale units engaged in fruit & vegetable preservation which is 87.7 per cent, of the factory sector. They accounted for 47.0 per cent of fixed capital, 48.5 per cent of employment, 44.5 per cent of gross output, and 43.4 per cent of value added by manufacture in 1965. Itemwise, small registered factories were responsible for 48.5 per cent of the gross output of canned and preserved fish and sea-foods, and 13.3 per cent of the preserved meat and dairy products. Such an appreciable share for the small scale sector in this industry is attributable to techno-economic factors, and this is the reason why they contribute quite a large share of the total exports of processed foods from the country.

**(II) Export Prospects**

The Fourth Five Year Plan (1968-69 to 1973-74) provides for an export target of Rs. 19000 million to be achieved by the end of 1973-74 as against the actual exports of Rs. 13000-14000 million in 1969-70. The cumulative rate of increase in exports is expected to be of the order of 7 per cent per annum as against the actual increase rate of 3-4 per cent during the past three to four years. Such export targets stipulate a large measure of export efforts to be put in by all the sectors of the country's economy. The non-traditional exports are envisaged to account for about 50 per cent of the total foreign exchange to be earned through exports during this period. At present, these are responsible for about 30 per cent of total export earnings. As such, the important non-traditional exports are to earn foreign exchange of a much higher magnitude by 1973-74 than in 1969-70. The comparative figures of present and prospective exports of the important groups of non-traditional exports are given below:—

| Non-traditional exports | In million of Rupees 1969-70 (estimated) | 1973-74 (projected) |
|---|---|---|
| 1. Cotton textiles including ready-made garments | 300 | 340 |
| 2. Leather & Leather Manufactures | 688 | 960 |
| 3. Footwear | 125 | 225 |
| 4. Engineering goods | 800 | 1750 |
| 5. Chemical & Allied Products | 417 | 698 |
| 6. Sports Goods | 68 | 10 |
| 7. Woollen Manufacture | 64 | 84 |
| 8. Preserved fruits | 25 | 33 |

It will be seen that the target fixed for engineering goods export in 1973-74 is more than double in value to that of 1969-70. Leather and leather manufactures, footwear, chemicals, woollen manufactures and processed fruits are to earn about one-half to three-fourths more of foreign exchange by 1973-74 compared to 1969-70.

In the small industry sector, a variety of non-traditional export items are manufactured. It should, therefore, have a larger share in the exports envisaged by the end of the Fourth Plan Period. It may not be possible to fix the corresponding targets for achievement by this sector in different product fields; but it is possible to broadly identify the product lines in which small scale units can be expected to contribute more towards exports than they are reported to have done so far. Special mention is to be made of 55 items belonging to the mechanical and eletrical engineering industries and also to the chemical and other non-engineering industries, which have been reserved for expansion in the small scale sector exclusively. It will, therefore, be useful to refer to the export potential of some of the reserved items.

*Mechanical Engineering Goods*

In this group the items already reserved for small scale sector include barbed wire, beam scales, bolts and nuts (except high tensile and other special type), conduit pipes (metallic), expanded metal, gun metal bushes, hand numbering machines and stapling machines, hurricane lanterns, hypodermic needles, machine screws (except for socket heads and special types), machine shop vices, rivets of all types, (including bifurcated), rolling shutters, steel wool, water meters, welded wire mesh, wire brushes, wire products, wood screws, aluminium utensils, mechanical toys, hydraulic jacks upto 30 tons capacity and steel furniture.

Exports of the items mentioned above may not be appreciable at present but in view of the anticipated overall increase in the export value of engineering goods under the Fourth Five Year Plan, exports of these items can be expected to improve substantially. One of the criteria for reservation of a specific item for further expansion in the small scale sector is the substantial contribution of this sector to the total production of the item keeping in view the quality of the product and the capacity of the sector to meet the present and anticipated demand. As such, these products can enter the export markets in a larger measure and with greater confidence in regard to their international acceptability.

Small industry exports of mechanical engineering goods are not expected to be confined to the reserved items only. The sector has already made a distinguishable contribution in exports of such items as hand tools and small tools, bicycles and parts, sewing machines and parts, agricultural implements, diesel engines etc. Moreover, these are among the 13 different items reported to have been identified by the Ministry of Foreign Trade to have ample export potential.

*Electrical Engineering Goods*

In the electrical engineering industries too, certain items have been reserved for future expansion in the small scale sector. These include automobile radiators, metal clad switches upto 30 amps., miniature bulbs, telescopie aerials, electric horns, etc. These products are exported in small quantities to some of the neighbouring countries. In addition to these reserved items, certain electrical goods manufactured in the small scale sector also figure in the export list. The items having scope for export belonging to the non-reserved category, include storage batteries, electrical accessories, electrical appliances, electric transformers, electric fans and parts, fluorescent tubes and fixtures, electric motors, radios and parts, wires and cables, electronic components, etc. Besides, the contribution to exports can be made by small scale sector by supplying parts for mechanical and electrical engineering finished goods.

*Chemical Goods*

A fairly large number of chemical products are at present either reserved or contemplated for reservation in the small scale sector. Some of them are absorbent cotton, dyes, formulated perfumery compounds, laundry soap, leather footwear, paints and varnishes, palm rosa oil, pine oil, paper conversion products, plaster boards, plastic processed products, safety matches, surgical gloves, thermometers, tooth paste, fountain pens and ball point pens, cycle tyres and tubes, etc. A number of these items are already exported, though in small quantities to the developed and developing countries. Since the chemicals and allied products are expected to record an increase of nearly 60 per cent in export value by 1973-74 compared to 1969-70, the exports of reserved items are expected to multiply at different rates during this period. Other items that are likely to have good export prospects include polytyene tubing and packing materials, black insulating adhesive tapes, roofing tiles, cement products, sensitised paper and corrugated paper board, etc.

A brief account of some of the non-engineering products with good export potential is given below.

*Leather and Leather Manufactures*

Tanned leather is a prospective export item, because the export of raw skins and hides is being gradually reduced from year to year. Leather tanning is chiefly concentrated in the small scale sector, though a few mechanised tanning units on a large scale have come up recently. The small scale leather tanning units no doubt cater mainly to domestic demand, but with the adoption of scientific methods of tanning as well as the use of modern tanning materials, the semi-mechanised small scale tanning units have sufficient scope to export a part of their products to other countries. With the development of finished leather industry in the country, the export markets will increasingly depend on India for import of not only finished leather but also leather products. With the increasing trend towards mechanisation and other aids supplied to the small tanning units, their products too should have an appreciable demand in export markets.

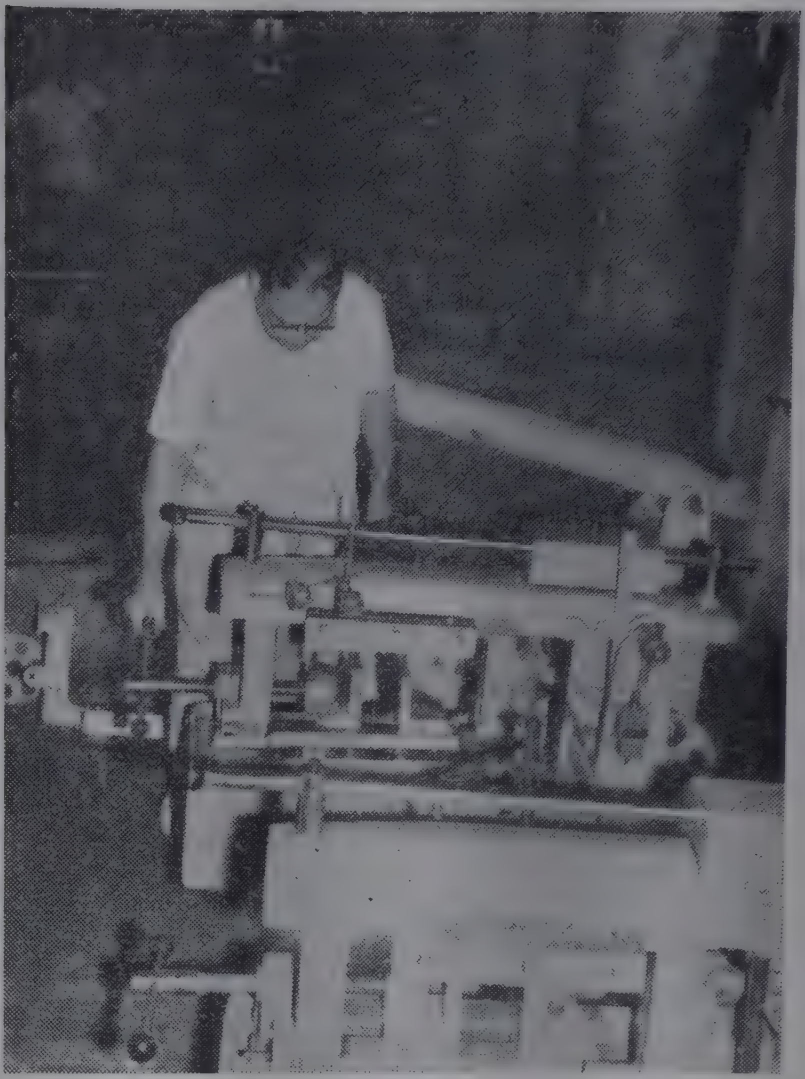
Leather footwear are already being exported not only to the East European markets but to the West European and American markets as well. Export target for leather footwear has been fixed by the Export Promotion Council for Finished Leather and Leather Manufactures at Rs. 250 million to be achieved by the end of Fourth Plan period as against the actual export of Rs. 42.8 million worth of leather footwear & leather manufactures in 1968-69. It is true that the Governments have decided to set up a few mechanised large units for production of leather footwear for export; even then the small scale sector of this industry can definitely capture an increasing share of total export sales. Other prospective leather products are harness and saddlery items, handbags, purses, shopping bags, travel leather goods, leather apparel and industrial leather products. These products are being at present exported mainly to Japan, U.S.A., etc. but have got considerable scope for expansion in other world markets as well. It is supported by the high export target fixed for leather goods and leather manufactures at Rs. 30 million by 1973-74 as against exports of Rs. 6.7 million in 1968-69. With the development of indigenous manufacturing capacity, it is expected that the targets fixed for leather footwear and leather goods and manufactures will be fulfilled and that the small manufacturers in these industries will be able to utilise their production potential to meet the increasing demand for their products.

*Sports Goods*

Sports goods exports mainly emanate from the small scale sector, as discussed earlier. Since these exports account for not more than one-fourth of the total production in this sector, there is considerable scope for expanding them so as to attain the annual target of Rs. 10 million by 1973-74. In order that the industry is able to achieve the stipulated export target, the exporting units will need to explore new market opportunities abroad. The increasing attention paid to the packing/packaging aspects of export goods and the researches carried out by specialised agencies to guide the small manufacturers in this industry should enable the Indian goods to attract considerable attention of overseas buyers. The Sports Goods Export Promotion Council has already undertaken joint publicity with industry, in order to create a good image of Indian goods in foreign markets. On production side, the technical help rendered by the SSIDO through its Extension Centre at Jullundur (Punjab) to the small scale units of this industry, is a favourable factor to promote exports of these goods. In order that the existing units are able to sell an increasing share of their production in overseas markets, the State Governments are also very particular about the quality specifications which the sports goods should conform to and they have made it obligatory on the part of small manufacturers to strictly adhere to the specifications laid down for the purpose. As a result of the sincere effort made by the industry and the Government in this direction, there are assured prospects for the small scale units of this industry to achieve the prescribed target of export by 1973-74.

*Processed Foods*

Processed foods, including fruits/vegetables and cereals are the items having export prospects. A comprehensive survey undertaken by the Indian Institute of Foreign Trade on the export prospects of processed fruits and vegetables in 22 selected countries of West Asia, South East Asia and Europe reveals that the exports of fresh and processed fruits and vegetables can be stepped up from Rs. 67 million in 1967-68 to Rs. 110 million in 1970-71 and Rs. 500 million by 1975-76. It is true that the component of fresh fruits in these export targets is expected to be substantially higher than the processed fruits. But the processed fruits will also have quite assuring prospects, as these are expected to be exported to the extent of Rs. 33 million by 1973-74 as against the actual export of Rs. 23 million in 1968-69.



*Picture shows a power hacksaw machine, built with the assistance of SISI, Ludhiana, being inspected thoroughly before its export to Philippines.*

As rightly pointed out in the Survey Report, the competition in international markets for processed fruits is very intense and in order that Indian goods capture a sizable portion of export markets, necessary measures are to be taken to ensure the competitiveness in regard to price. The price of sugar and the cost of cans are the major factors to be considered for price competitiveness. In the field of marketing and distribution, as the Report suggests, the exporters will need to have tie-up sales arrangements with the leading importers on a long term basis for supply of stipulated quantities at pre-determined prices. In view of these conditions, the small scale sector will need to be mechanised and adopt modern methods of processing and preservation so that they have an increasing share in the total exports of processed fruits.

The prospective food (processed) items include canned fish, biscuits and breakfast foods, baby food, ice cream in retail packs, banana and sweet lime cocktail, Indian 'papads' and 'Waffers', curry powder, pickle and chutneys', etc. In view of the fact that the Indian products, by and large, compare favourably with the best produced by their counterparts in other parts of the world, the small scale units have good prospects of increasing the export of products of this industry.

*Woollen Manufactures*

The exports of woollen hosiery goods have rapidly expanded in the recent past, but there still exists a vast export potential for this industry. The industry is expected to create new demands in the present as well as prospective markets through necessary adaptability in their production pattern and the quality of their finished goods, so as to meet the emerging consumer preferences in the export market. The sales-cum-study team, sponsored by the Wool & Woollen Export Promotion Council in 1969, visited the selected middle East countries, Canada and the USA. It has drawn the attention of Indian manufacturers to the growing export demand in these markets for their products. It has, at the same time, pointed out the limitations of Indian industry in that it does not have the necessary sophisticated machinery required to manufacture fully fashioned garments. As shown by the fashion trend in favour of knitted garments as against woven ones during the past few years, the exporters of knitted fabrics for ladies, teen-agers, etc. will have a good potential market abroad.

*Conclusion*

The export prospects discussed above about the small industry products in different manufacturing fields are amply substantiated by the fact that export inquiries worth about Rs. 550 million have been secured by DCSSI for a variety of small industry products in such a sophisticated market as Japan. The prominent among these products are automobile parts, sewing machines and parts, readymade garments, etc. Efforts are being made to produce goods according to these export inquiries by spotting out the competent small scale units and ensuring the quality of export products through necessary guidance and precautions in the form of servicing centres to be set up in different parts of the country. Intending exporters are required to obtain a certificate to the effect that their products are acceptable.

### (III) Aids/Assistances for Export Production and Marketing

Small scale industries are expected to harness the export prospects outlined above, hence a number of policy measures have already been adopted and a network of institutions were established to assist them in export production and marketing.

*Imported Raw Materials*

On production side, the Import Policy for the years 1969-70 and 1970-71 provides certain concessions in the allotment of imported raw materials to small scale units for export production. Under the 1969-70 Import Policy, the large scale units of ten specified industries could have import entitlements in case their exports did not fall below 10 per cent of their production, whereas the small scale units in these categories were exempted from this limitation. The 1970-71 Import Policy accords a greater preference to small scale units in the matter of supply of imported raw materials required by them. In general, the large units exporting 25 percent or more of their production are entitled to import their raw material requirements from free currency area to the extent of one-third of their requirements upto a maximum of Rs. one million in value, whereas the small scale units satisfying the same condition can import their full requirements of raw materials from free currency area. The Industrial Raw Materials Assistance Centre (IRMAC) of the State Trading Corporation is to supply imported raw materials to the actual users and registered exporters in an 'off-the-shelf' form. This centre is expected to be of considerable assistance to the small exporting units compared to the large ones. Further, the small scale units have now been entitled to an initial licence for raw materials and components upto the value of Rs. 25,000 as against Rs. 15,000 earlier. In case any one of these units already exists, it can continue to have this facility to claim import licences as a new unit if it finds it to its greater advantage. The small units are, moreover, exempted from certain procedural formalities in applying for an import licence.

*Finance for Export*

The Industrial Development Bank of India and the State Bank of India and its subsidiaries, besides other commercial banks, provide finance for export on different terms and conditions. The Industrial Development Bank of India has introduced a scheme for direct financial assistance to the exporters in general, in participation with the approved commercial banks. Its scheme provides credit for export during the pre-shipment and post-shipment stages for the period of six months and on the basis of export performance and financial guarantees issued by the Export Credit and Guarantee Corporation on behalf of the exporters. The State Bank of India and its subsidiaries (i) provide post-shipment finance by negotiating bills either under letters of credit or under the deferred payment guarantees, (ii) supply machinery to them for the manufacture of export goods and (iii) give the performance guarantees needed by Government authorities for issue of import licences for raw materials.

They can as well have unsecured advances against the collateral security and/or third party guarantee, if available.

The small industry exporters can obtain export finance from the STC under its EASI scheme on concessional terms. They can have such loans for a period of six months for purchase of raw materials to manufacture export goods and meet other expenditure like packing, etc., on the basis of a valid contract of sale with overseas buyers to the maximum extent of 90 per cent of the contract value. They are generally supposed to apply to the STC for loans not less than Rs. 10,000 in amount. They have to satisfy certain conditions laid down by the STC, including furnishing of packing credit guarantee policy from the ECGC. They are required to pay interest @ 1 per cent less than the bank rate with quarterly rests. They are supposed to allow the STC officials to inspect the stock-in-trade at any time in order to ensure proper utilisation of the loan amount. They can also obtain post-shipment loans from the STC under this scheme. They can have 95 per cent of the invoice value and the 5 per cent balance after the overseas buyers have paid for the export goods.

*Product Manufacturing for Export*

In addition to production facilities of imported raw materials, components, machinery and finance, etc. the SSIDO renders various services to the exporting small scale units for manufacture of export-worthy products in respect of product designing, product quality, packaging and other allied services. Its Industrial Design Cell provides assistance to the small scale units manufacturing electrical appliances, utensils, furniture and other utility articles. The experts working in this Cell assist the present and prospective small exporters right from the stage of preparation of blueprints to that of manufacturing the final products. A number of products designed by them like thermos flask, tiffin carrier and certain varieties of wooden furniture have been produced on commercial scale and found ready export markets. In addition, the Electrical Measuring Instruments Design Centre has been set up recently in Bombay by the SSIDO with aid from the U.N. This Centre assists and guides small manufacturers in producing different varieties of electrical measuring instruments, both for domestic and export markets. The U.N. Tool Room Centre at Hyderabad, which also works under the auspices of the SSIDO, has started rendering similar services to the concerned small scale units.

*Big or small, a complete product or a component, they have a market both within the country as well as abroad. Picture shows a panel of automobile components in the permanent exhibition at SISI—Bombay.*

At the State level, there are quality marketing centres operated by the State Governments to provide valuable services to small manufacturers in the specified product lines in respect of testing facilities and quality assessment at nominal prices, certificates issued by these centres are accepted by appropriate authorities for the purpose of pre-shipment inspection of goods for export.

The officers of the SISIs, the Branch Institutes and Extension Centres of the SSIDO render technical assistance and help to small scale units in producing goods for export by way of suggesting more useful technical processes, better plant lay-out, saving of materials, more dependable testing apparatus etc., with a view to achieving cost economies and quality improvement. Their assistance has proved of considerable value to a number of small scale units in improving the quality of their export products and enabled them to contribute to export earnings of the country.

*Export Training and Consultancy Services*

The Indian Institute of Foreign Trade (IIFT) organises training courses in export marketing on regular and *ad hoc* basis for benefit of all the exporters (manufacturers and merchants). It sometimes organises such courses for small industry exporters alone. The SSIDO conducts export training courses for small scale industrialists exclusively and also renders to them consultancy services in the field of export business. Its officers explain and assist such exporters in understanding the principles and practices of export marketing; and help in export pricing, presentation, preparation of catalogues, etc. In performance of its consultancy services, the SSIDO undertakes identification of the prospective export products and export markets. It also maintains liaison with the departments administering the export assistance and thereby helps development of a co-ordinated effort in the direction.

The STC under its EASI Scheme undertakes to assist the small and medium manufacturers in their export business by locating foreign customers for their products, preparing presentation material, examining and despatching of samples to foreign buyers, preparing export documents, obtaining import licences, drawback certificates and in arranging for export credit and cover against export risks and arranging training to small industry exporters. The STC has recently allocated the marketing functions of the EASI Schemes to its respective Commodity Divisions with a view to making available to small industry exporters the specialised marketing services of these divisions. Other functions and services continue to be rendered by the STC under the scheme. Its services are confined to the selected range of commodities belonging mostly to the consumer goods and semi-durable goods manufactured in the small scale sector. It, thus, provides the services of an export house in selling the small industry products with the additional advantage that it passes on the gains of export trade to the small manufacturers themselves.

The State Directorates of Industries also look after export promotion work in small industry sector on the State level. Some of these Directorates have set up separate export promotion cells for the purpose. Assistance provided by these Directorates to the small scale units competent to manufacture export-worthy products in the industrial estates in particular is substantial. At the State level are also the State Export Corporations in certain cases and the export wings of Small Industries Development Corporations in some other cases. Those Corporations/Wings undertake promotional activities including arranging and co-ordinating facilities for export production and marketing, for small industry products in their respective areas. Some of them have set up display windows and adopted various publicity measures in different foreign countries with the assistance received from the State Governments. Some among them also undertake foreign market research/surveys, arrange visits by industrialists to the foreign markets for creating a favourable image of their export products and also for canvassing business for the same.

*Participation in International Trade Fairs and Exhibitions*

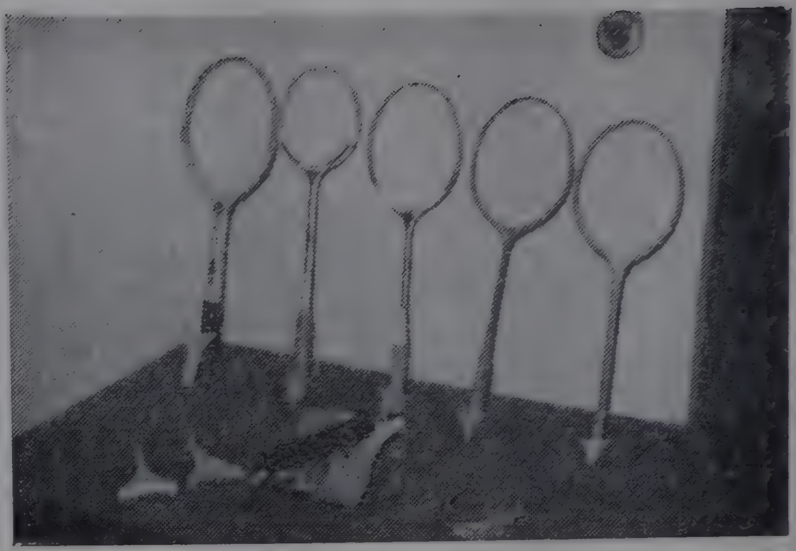
The Ministry of Foreign Trade renders a number of services to exporters in the field of export publicity and exhibitions. Besides, there is an Indian Council of International Trade Fairs and Exhibitions, which is an autonomous body sponsored by the Government of India for encouraging and facilitating the participation of exporters in the selected trade fairs and exhibitions held in different parts of the world. The agencies helping small industry exporters exclusively in this direction include the SSIDO, the STC and NSIC. The SSIDO helps small industry exporters of certified competence in exhibiting their products in international trade fairs and exhibitions. It generally sets up a separate pavilion or a section of the Indian pavilion in such fairs and exhibitions for display of small industry products. It obtains samples of such products for the purpose and defrays a part of the expenses involved in transportation of their sample products to and from the place of exhibition. The selected small industry exporters also obtain certain financial assistance from the Government for the purpose. The STC also arranges exhibition of the selected products manufactured by its business associates in international trade fairs and exhibitions. The NSIC has recently taken upon itself the task of organising small industry products expected to cater the demand of foreign buyers. The new Trade Development Authority renders export counselling and 'package' assistance to the exporters in the small scale sector also.

## Perspective and Prospects

It will be seen from the above sections that small industry products have penetrated into export markets and that they have immense potential to earn increasing foreign exchange for the country during the Fourth Five Year Plan period. The institutional set-up is there to gear up export efforts of the small industry sector. It is being streamlined for greater assistance to small industry exporters. The Export Promotion Directorate set up in the SSIDO and the Trade Development Authority established by the Ministry of Foreign Trade are the important institutions to facilitate and augment export business of small industry sector.

The SSIDO in its programme of work for the Fourth Five Year Plan provides for a selective approach to boost up small industry exports. It plans to concentrate on such specific industries which have got export potential and which can develop an edge over their competitors in the international market. It has tentatively selected about 20 industries for the purpose, including machine tools, automobile ancillaries, domestic electrical appliances, cutlery, electric fans, radios and transistors, rubber moulded goods, leather footwear, etc. The Small Industries Service Institutes at Calcutta, Bombay, Madras and Delhi undertake pre-shipment inspection of exportable products.

The programme of work in this field provides for an amount of Rs. 1.9 million for strengthening the export promotion efforts. It stipulates that delegations of small industrialists representing five groups of industries should be sent abroad every year to develop export market. It proposes that the Central Government may give a grant sufficient to meet 50 per cent of the expenditure on travel and that the balance is to be provided by the industry associations. The programme also visualises the organisation of mobile exhibition of small industry products to go round other countries and provides for the total financial outlay of Rs. 0.15 million for 5 years. It also proposes to allocate an amount of Rs. 0.5 million for inviting foreign experts particularly connected with huge department stores in order to advise small industrialists regarding the possibilities of exports.



*A variety of sports goods are being exported from India. The SSIDO has experts having special knowledge of the manufacture of sports goods. Some Extension Centres specialise in this line. Picture shows various types of rackets and a special wedge-making attachment for the manufacture of different types of wedges.*

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(*Continued from page 208*)

implemented, has to be known to be of some value. This can be ensured by charging a nominal fee whilst making it clear to the industrialist that the balance of it is being borne by other agencies. Ultimately we should develop self-supporting management counselling schemes, such as self-organizing and self-managing groups and TOP counselling.

# ANCILLARY PROGRAMME

## A. ANCILLARY DEVELOPMENT IN THE SMALL SCALE SECTOR

**An Ancillary Small Scale Unit is**

> *"A unit which produces parts, components, sub-assemblies and tooling for supply against known or anticipated demand of one or more large units manufacturing/assembling complete products and which is not a subsidiary to or controlled by any large unit in regard to the negotiation of contracts for supply of its goods to any large unit. This shall not, however, preclude an ancillary unit from entering into an agreement with a large unit giving it the first option to take the former's output."*

The units which are set up primarily for replacement market also fall within above definition of ancillary industries. Ancillary industrial units pertaining to the following industries, whose capital investment in plant and machinery equipment exceeds Rs. 0.75 million but is not more than Rs. one million are at present eligible for certain facilities under the programme of development of small scale industries *viz.* (a) technical assistance through the Small Industries Service Institutes, (b) supply of machinery under the hire purchase scheme and (c) allotment of factories in Industrial Estates:—

1. Industrial machinery.
2. Agricultural and earth moving machinery.
3. Machine tools.
4. Industrial, scientific and mathematical instruments (mechanical).
5. Locomotives and rolling stocks, ships and aircrafts.
6. Bicycles.
7. Boilers and steam-generating plants.
8. Steam engines, turbine and internal combustion engines.
9. Automobiles.
10. Commercial office and house-hold equipment.
11. Electrical machinery, equipment and appliances.
12. Tele-communication equipment.
13. Industrial instruments (electrical).
14. Radio and electronic equipment.
15. Air-conditioners and cold storage equipment including refrigerators.
16. Mineral oil and petroleum industry.

*The complementarity of the large and small industrial sectors is a vital facet of India's industrial development. Picture shows a high level seminar on ancillary development in session.*

**The Need for Ancillary Development**

Industrial development of countries like U.S.A. and Japan amply illustrate the need for ancillary units. Even the most popular industrial units manufacturing electronics in Japan manufacture only 10% of the parts themselves. The large units concentrate only on assembly, testing, marketing, designing and research in some cases. Manufacturing every item under one roof whatever may be the quantum of production, is often beyond the economic feasibility of production itself. Undoubtedly there are some parts and components and sub-assemblies which can be easly farmed out for production outside. No doubt, from industry to industry the situation varies depending upon such factors like the [process of production, the quantum of production, market demand, availability of skills and raw materials etc. The Industries which are selected are eminently suited for ancillary development. When it comes to the question of ancillary development programme, essentially it is an economic necessity for large units to go in for ancillary supplies.

Where production of parts or components are such that a closer manager-cum-labour relation and subsequent efficiency in production is to be ensured, ancillary purchases will be beneficial for the large scale units. It is common knowledge that after a certain stage supervisory bottlenecks creape in and in a way production process becomes unmanageable. Small industry production enables the large unit to conserve its managerial and production resources for fields where the return is better.

Where the quantity required by the large unit is fairly small in nature, necessarily, small batch production is the answer.

Specialisation is the rule of the day. Specialisation has acquired increasing importance in the fields of production and marketing. It may not be possible for the parent unit to devote specialised attention in various spheres of production. And yet, there are items which require a finesse in production in very minute details and in some cases this could be done only in small scale.

A major attraction for encouraging ancillary purchases is the reduction effected on cost of production. M/s. Escorts Ltd., New Delhi recently conducted a study in regard to pruchases made by them from ancillary units. It was found that parts and components when indented from outside reduces the cost of structure by 30 to 40%. This is because small units have comparatively less, overheads and obiviously they could provide the components at a lower cost to the parent unit. It is natural that the large unit cannot expand indefinitely in its production process even though there is an ever expanding market. After a particular stage the managerial and other cost per unit of production of some components begin bringing in diminishing returns.

It is not necessary that all ancillary purchases should be made from ancillary units and all ancillary units should produce for a particular parent firm. However, it is beneficial for a parent unit to enter into an ancillary relation with small scale ancillary units by agreement or otherwise as it will ensure regular supply, reasonable price and satisfactory quality.

From the point of view of development of small scale units ancillary production provides a promising field for growth. In the initial stages of development, small scale units were not fully equipped to make supplies of precision type of components and parts at a price acceptable to parent units. With the growth of small industry sector this position has been considerably changed. The small scale units got more and more modernised and they established their competency to supply quality goods at reasonable prices competing with their large scale counterparts.

One of the weakest point with small industry development has been the difficulty faced by these units in marketing. Being small in scale they could not muster all the resources for the modern type of agressive marketing. In this context ancillary supplies to large units provide an assured channel for development.

In providing a wide spread-out of entrepreneurship and promoting entrepreneurial talents in the country, the ancillary programme holds immense possibilities.

With increasing number of technically competent and qualified men taking up small industry as a career, small industry sector is likely to meet the requirements of ancillary development in greater measure. Already a good beginning in this direction has been made as could be seen from the discussions appearing elsewhere in this souvenir.

**Magnitude of Small Industry Ancillary Sector**

Ancillary arrangements between large and small scale sectors could be broadly categorised into four major types as far as purchases are concerned:

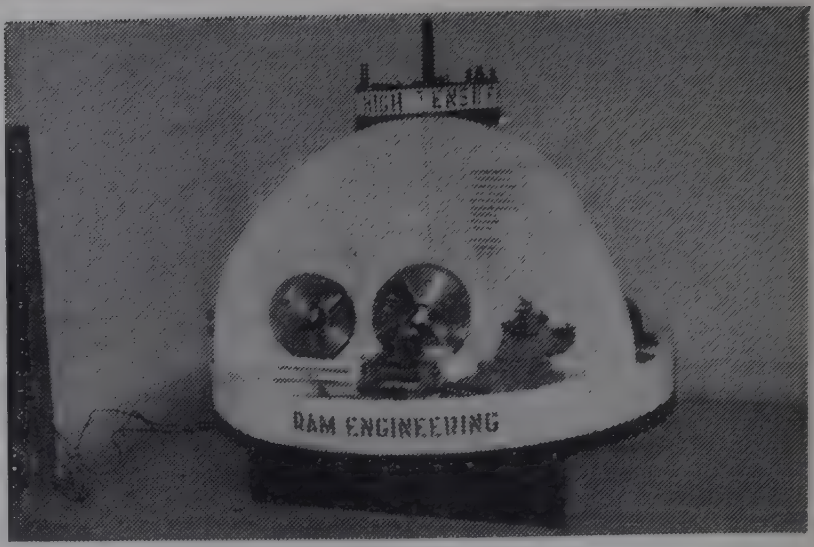
(1) Purchase of identified components from small units for a fixed period on the basis of reciprocal agreements.

(2) Purchase of components not identified and agreed to but depending on requirements from small scale units for a fixed period on the basis of agreements.

(3) Purchases of components that are identified and agreed to, on a regular basis.

These purchase agreements constitute only one facet of ancillary relations. In fact, it covers a whole array of relations pertaining to pricing, supply of raw materials, delivery time, specifications, packing etc.

The ancillary programme has gained momentum since it was launched. Today there are about 10,000



*Small industry is no longer small.*
*Items manufactured in the ancillary small units are of high quality and precision and are therefore acceptable as original components in the assembly of many capital goods.*

*The seminars provide a meeting ground for the representatives of the large & small scale sectors as well as governmental & non-governmental promotional agencies. Picture shows (from left to right) Shri K.L. Nanjappa, Development Commissioner (SSI), Shri A.P. Apanna, Hon. Deputy Minister for Industries, Govt. of Mysore, Shri S.M. Patil, Chairman, Hindustan Machine Tools Ltd., Bangalore, Shri K. Balachandran, I.C.S., Additional Secretary to the Ministry of ID & IT, Govt. of India & Shri B. Sivaraman, ex-Cabinet Secretary, Govt. of India taking part in a seminar recently organised in Bangalore.*

small units manufacturing components required by large scale establishments. About 200 large units obtain regularly supplies from ancillary small units. The total investment in these small units is estimated at Rs. 3000 million and ancillary supplies made during 1969-70 are estimated at Rs. 277.28 million worth of goods. These units employ about 100,000 persons. Small scale units today supply components not only to public sector undertakings but also to a number of large concerns in the private sector. Taking into consideration the tremendous potential in ancillary development what has been tapped is just the fringe of this vast potential. For a single factory like HAL alone, about 180 items were located for ancillary production while only 20 or more units regularly supply a couple of these items. In the case of HMT, there are 51 units effectively functioning in one centre alone supplying 50% of the components. There are roughly 1000 large scale units in private sector and 60 establishments in public sector which are not tapped at all. Components regularly required by them which could be profitably manufactured on small scale, may run into thousands.

The ancillary units could be categorised into two main varieties namely (i) those which are located in an ancillary industrial estate and (ii) those which are located outside and scattered. The ancillary industrial estate idea is slowly and steadily gaining ground. It has some specific advantages to the large scale units as production will be under their very nose if the estate is meant for one single unit and controls could be effected if the units are grouped at one estate even though they serve more than one large scale unit. Form the point of view of small scale units advantages are maniflod. They relate both to organisation of production and marketing.

### Assistance Programme for Ancillary Development

The SSIDO with its network of SISIs and Extension Centres helps to locate competent small scale units capable of supplying parts to large units on the one hand and components & parts which could be farmed out by large units on the other hand. The organisation acts as a co-ordinator between the large and small units. It helps the small units on a priority basis with the preparation of technical projects, provision of technical, managerial and economic know-how and provides its entire gamut of developmental facilities with a view to develop competent ancillary small units. It also functions in liaison with large units and helps the small units in facing the numerous problems faced by them. The organisation also helps the large units to set up industrial estates exclusively to house its ancillary units and renders assistance not only from its own sources but also co-ordinates the assistance programme of various other developmental agencies.

Small scale ancillary industrial units are entitled to special assistance in the following fields:

1. Allotment of land for building of sheds in industrial estate;
2. Credit facilities at concessional rates of interest;
3. Machinery on hire-purchase basis;
4. Price preference in the Government Purchase Programme;
5. Allotment of scarce raw materials both indigenous and imported;
6. Technical assistance and training facilities from the SSIDO.

### Exhibition of Ancillary Items

The SSIDO organizes exhibitions of parts and components required by the large scale units for the benefit of the small scale ancillaries. The contact established by the visiting small industrialists with the large scale undertakings exhibiting the products has led to the establishment of healthy ancillary relationships in a number of States. Along with the exhibitions, the SSIDO also organises seminars in which both the large scale indenters and the small scale suppliers participate and discuss problems of mutual interest.

**Problems of Small Units**

Some of the typical problems faced by small units to mention a few are:

1. The pacing of offloading of orders done by large units without taking into consideration the capacities of the participating small scale units.
(2) The pricing system which sometimes are worked out to the disadvantage of small scale units.
(3) The acute shortage of raw materials faced by small units.
(4) Working capital and other requirements of funds to carry out the ancillary production order.
(5) Absence of testing and laboratory facilities.
(6) Uncertainty of orders on account of absence of agreements.

**The Seminar on Development of Small Scale Ancillary Industries**

A seminar on the development of small ancillary industries in the public undertakings was organised by the SSIDO. The deleberations included discussions on parent-ancillary relationship, facilities to be offered by the public sector undertakings to ancillary industries, pricing policy, length of contract, credit facilities, liberalisation of terms and conditions of hire purchase of machinery and equipment by the NSIC, guidelines for new undertakings etc. A number of resolutions were passed at the seminar. Some of the important resolutions passed are as under:

(1) That it should be obligatory for public sector undertakings to foster the development of ancillary industries in cooperation with various agencies connected with ancillary development. Every public sector undertaking where ancillary development is possible, should set up an Ancillary Division or designate a senior officer who should be primarily responsible for development of ancillaries and for farming out parts and components and sub-assemblies which can be competently produced in small scale ancillary units around that enterprise. The officer who is so designated for this work may be suitably aided, advised and assisted by suitable technical and financial experts. Amidst the other items of work, his main responsiblities should be the following:

(a) To specify items whose import is inescapable and give top priority in locating indigenous capacity for such items in as short time as possible;
(b) To farm out items which could be conveniently developed by ancillary units in and around that undertaking; and
(c) To identify the items which could profitably be off-loaded to the existing or proposed industrial units.

The officer should also be asked to report the progress to the Development Commissioner, Small Scale Industires, New Delhi, in the above mentioned directions bi-annually, so that it is possible to know at least bi-annually, the progress that has been done in the development of ancillaries by that undertaking.

(2) The public sector undertakings should also take upon themselves the responsibility for development of Ancillary Industrial Estates in co-operation with the assistance of the State Governments and the State Directorates of Industries so that what ever ancillary units can be set up in that area, are provided with the minimum basic infrastructure facilities. It goes without saying that the public sector undertakings should normally provide all necessary technical assistance, tooling and testing facilities etc. because such expertise is beyond the competence or the capacity of the small ancillary units.

*Picture shows Shri A.P. Apanna, Deputy Minister for Industries, Govt. of Mysore clarifying a point with Shri K.L. Nanjappa, Development Commissioner (SSI) during an informal meet on the occasion of the Seminar on Ancillary Development.*

*Many major decisions are taken—some involving persuasion, others guidance & some others direction. In a closed door session officials of the Central Govt., State Governments, representatives of the large and small scale industries discussing some specific problems.*

(3) The most important handicap not only for the small scale units, but also for ancillary units, is the non-availability of scarce raw materials, both imported and indigenous. For this prupose, it may be necessary that the major public sector undertakings should be enabled and assisted by Government for setting up raw material banks out of which the requirements of ancillary units particularly in the scarce categories may be drawn.

(4) That there should be reasonable understanding between the public enterprise and the ancillary unit on price and period of contract. It would be advantageous both for the public undertaking and the ancillary unit that the orders or sub-contracts are settled for a reasonably long duration.

(5) That there should be a standing selection committee comprising chairman of the public undertaking in question, a representative of the State Directorate of Industries and a representative of the D.C. (SSI) for selecting suitable enterprises and entrepreneurs. This committee should be responsible for selecting the entrepreneurs who may be assisted in setting up ancillary units. Preference should normally be given to technical employees of the public sector plants and the locally available technical talents.

(6) That in respect of new undertakings, it was considered that a proper scrutiny of parts and components required from the ancillary units should be made before the product-mix of the public sector undertaking is approved by the Central or the State Government as the case may be. The scrutiny should be to determine as to (a) what should be manufactured by the undertaking; (b) what should be developed and manufactured by ancillary units in the small scale sector; (c) what should be sub-contracted or bought out (this may include fabrication, standard hardware or other items); and (d) what should be imported initially, to be followed by steps for their early production indigenously on a top priority basis.

(7) That the public undertakings should recommend the financial requirements of their ancillary units to the various financial agencies and their recommendations should be honoured by the banks.

(8) That the NSIC should reconsider its earlier decision and restore the facility of supplying machinery on hire-purchase on liberal terms—5% earnest money and lower rate of interest.

(9) That it will be most helpful in pushing through an aggressive ancillary industry programme if the Organisation of the DC (SSI) is strengthened suitably.

(10) That in respect of Railways, the present procedure is that they make purchases through the D.G.S. & D. and on tender system. Inordinate delay is experienced in this procedure. This system does not serve as a proper linkage between the ancillary units and the public undertakings under the Railways. Railway manufacturing workshops should farm out parts, components, sub-assemblies, etc. to encourage ancillary units in the small scale sector.

(11) That with regard to Defence Establishments, a committee should be formed consisting of the concerned Department of Defence Ministry, respective State Director of Industries and the DC (SSI) to find out the possibility of setting up of ancillary industrial estate where the items are justifying the establishment of viable ancillary units.

(12) That at the time of licensing, the large undertaking (whether in the public or private sector) should spell out the items which they propose to farm out to ancillary units whether by value or percentage. This will give a big impetus to the development of ancillary industries. The percentage or the value of the ancillary items can be fixed by the D.C. (SSI) in consultation with the large undertaking.

*The automobile industry offers the greatest scope for the development of ancillary industries. Picture shows high level officials of the Ministry of ID & IT participating in a seminar presided over by the former Union Dy. Minister of ID, IT & CA Shri Bhanu Prakash Singh.*

## B. SUB-CONTRACTING EXCHANGES IN INDIA

Emrys Edwards, a British Expert on Sub-Contracting describes the Exchange as "a system for increasing industrial efficiency by speeding the farming out of Sub-Contract work". According to him there are two types of sub-contracting namely (1) capacity sub-contracting and (2) speciality sub-contracting. 'Capacity' sub-contracting arises from a temporary factory overload on account of a sudden increase in market demand, bad production scheduling, machine break down etc. Speciality "sub-contracting follows a deliberate policy to sub-contract part or all of a company" manufacturing requirements because it is more profitable to do so. The ancillary system of production in India and a number of other countries come under this type of sub-contracting.

The setting up of two sub-contract exchanges, one in Bombay and another in Madras, as part of the Small Industries Service Institutes in these two cities, early in 1970, mark yet another attempt on the part of the Development Commissioner, Small Scale Industries in giving a fillip to closer co-operation between large scale and small scale manufacturing units in the country.

Over a decade or so ago the large scale and small scale segments of the industrial sector of India's economy were generally functioning apart. The small units were not serving the larger ones and the large establishments looked upon the small industries as if they were of no consequence. The large scale industries in the country were in the initial stages, planned to manufacture, as far as possible, all their items within their own premises. Likewise, the small scale units also grew up as independent units not planned to meet the requirements of particular large scale units. But very recently there has been a phenomenal change in the relationship between the two sectors. There has been a considerable interchange of products and services between them. This new developing pattern of growth has in fact strengthened both large and small industries to achieve greater volume of employment and production. The striking developments in small scale industries, and their ability to turn out quality goods and precision parts, have encouraged the large units to appreciate the value of farming out their components and requirements to selected small units. The importance of sub-contracting system is now being realised by all large industries in India.

Concerted attempts are now being made to link up the two categories of units. Amongst them may be mentioned the establishment of an information system which gives out two-fold data (1) about the existing capacity and production of small scale units to help larger ones and, (2) about the requirements of large scale units to small units to assist them in becoming effective ancillaries to bigger units.

Government organisations and private industrialists have noted that there are certain bottlenecks in the development of ancillary or sub-contracting system in India. Firstly, there is a feeling that small scale units do not turn out quality goods because they are not properly equipped and experienced. Secondly, the large units feel that there are not many small units which can deliver the goods according to their time schedule. Thirdly, there is no organisation to locate the small scale units which can competently take up the work of manufacturing the component parts, etc. required by large scale factories. It is felt that if a special organisation is set up to solve the third problem, it will itself solve the first two, by and by. There are special institutions in U.K., Germany and France, in the form of sub-contract exchanges which bring together the large scale and small scale industries and foster ancillary relationship. With the setting up of two sub-contract exchanges in India, a beginning has now been made in offering this type of institutional service for large and small scale units in the country.

A brief account of the working of the Exchange in Small Industries Service Institute, Madras, is given below:

**Tamil Nadu Sub-Contract Exchange, SISI, Madras**

The Exchange serves as a Central Information Centre where machine capacities of small scale industries are registered and enquiries from large industries for the manufacture of different components, sub-assemblies and bought-out components such as hardware items manufactured are passed on to registered small scale units having spare capacity to undertake the manufacture of the requirements of large scale units. The Exchange thus saves the time of large industries in searching for sub-contractors to carry out any type of work and also assist sub-contracting units to find jobs for their machines.

*Functions*

(1) To invite small scale units dealing in mechanical, electrical, electronics, plastic, ceramics, leather industry etc. to register their spare capacity of machinery with the Exchange and record on the information cards—prepared machine-wise, process-wise and product-wise.

(2) To approach large industries and request them to off-load items which could be manufactured in small scale industries.

(3) To render technical assistance to small scale units in developing/manufacturing the items registered by large scale industries.

(4) To furnish information to small scale industries regarding the requirements of large scale industries.

The work involved in running the Exchange could be divided into the following two groups: (A) registering the capacities of small scale units having spare capacities of machines; and (B) processing the enquiries received from the main contractors.

(A) *Registering of small scale units for spare capacity on their machines.*

* Collection of information regarding spare capacity of machines and items manufactured through correspondence.

* Visit to the units to verify their technical competency, the conditions of the machines installed and quality control available in the unit.

* To make final selection of units capable of handling the enquiries.

* Allotting of numerical and alphabetical code to the unit.

* Entering the numerical and alphabetical codes allotted to the units in the register.

* Preparing the item cards (set of three for each unit), one for the history of the unit, other for the items manufactured and the third one for the details of machines available.

* Assigning technical concepts based on the items manufactured and the machines available and then entering the same in item card.

* Preparing the concept card operation-wise/product-wise based on the information recorded in the item cards.

* Punching of the numerical numbers assigned to a particular unit in the concept card.

* Opening of a file for each new unit and filing of papers received from that particular unit.

* Entering the change of capacity of machines or addition of machines in the capacity register based on the information supplemented by the unit.

* Making necessary corrections regarding change of capacity of machines or addition of machines in the item cards based on the information received.

* Preparing the information of the units and placing the same in the index.

(*B*) *Processing the Enquiries*

- The enquiry is received by letter/on phone/ on visit to the Exchange by the party.
- The enquiries are entered in the Enquiry Register and a serial number is allotted.
- The enquiry received by a letter/on phone is scrutinised.
- Wherever necessary, correspondence is done with the units placing the enquiries for the supply of drawings for the items to be farmed out, for clarification regarding specifications of raw materials, quantity required and the date of delivery.
- An enquiry folder is opened for each such enquiry and the relevant papers are filed.
- The enquiries are entered in the enquiry sheet and the processes involved in the manufacture of items worked out and noted on the check sheet. The processes done are corelated to the technical concept and the corresponding concept cards are picked up. Then the number of units capable of doing the job are noted from the concept card and recorded on check sheet.
- Item cards of the units having numerical numbers selected as above are taken out from the cabinet and the machine capacities/ servicing facilities are verified.
- Referring to the index, the selected units are contacted over the phone in case of the units located in Madras City and through correspondence in case of the units located outside Madras and they are informed of the requirements of the main contractor.
- Where drawings are involved, according to which the main contractor, requires the parts/ components to be manufactured, the selected small scale units are invited to the Exchange to study the drawings and in case of any clarification is required that is furnished.
- After verifying the availability of spare capacity of machines, the details of the enquiry are sent to those small scale units who show interest to take up the job, with the request to quote to the main contractor.
- Follow-up action is taken through correspondence and personal visits till the main contractors establish contacts with the subcontractors.
- On completion of the enquiry, the entire bunch of papers relating to that particular enquiry is stapled and kept in a separate file.

*Steps Taken to Popularise the Exchange*

To begin with, we confined ourselves in collecting information from small units located in Madras City only. However, enlistment of units capable of undertaking sub-contract work from other districts has also been commenced. Circulars are being sent to all the small scale units in Tamil Nadu explaining the activities of the Sub-Contract Exchange. So far, we have collected information from engineering units. This is being extended to a few other non-engineering industries also to enlarge the scope of the Exchange.

The Exchange has already made an impact on some of the large industries. For example we may quote Bharat Heavy Electricals Boiler Plant, Trichy. Besides, Madras Oil Refineries is also planning in a big way to sub-contract their items. Defence authorities and Railway establishment have also been approached to make full use of the Exchange and the enquiries from them have started flowing in the Exchange.

*A Few Instances of Assistance Rendered Through Sub-Contract Exchange*

So far 122 enquiries have been received in the Exchange, out of these 75 have been processed and the remaining 47 are under process. Small scale units registered with the Exchange are 350. A few instances of assistance rendered will help the reader to understand the purpose of exchange better.

A large scale unit in Madras required knives used in slitting machines and trimming machines. They sought the assistance of the Exchange for developing the item in small scale sector as they could not procure the item from indigenous sources. After various efforts, the Exchange ultimately located two units in Bombay who expressed readiness to develop this item. These units were introduced to the main unit.

A small scale unit in Tuticorin was assisted by the Exchange in introducing units who could supply gear trains and worm wheels for optical instruments. These units are located in Madras City.

*Advice for Starting New Industry*

The services of the Exchange were also utilised by two engineering graduates who approached this Exchange for advice for starting industries based on the requirements of large scale industries. They were advised to take up the manufacture of Gauges. They are now supplying them to a large unit in Madras. They manufacture the items by availing of the workshop facilities of the college.

An entrepreneur approached the Exchange for suggesting industries based on enquiries received in the Exchange. He has been advised to develop the imported components required by Defence. He has shown keen interest to develop these items indigenously. He is setting up the workshop and will be given all possible asistance.

*Efforts of the Exchange in Import Substitution*

Inspectorate of Armament, Madras had a detailed discussion with the Director, SISI regarding the import substitution of 50 items for armaments. They have made a request that the items be developed through the Exchange. The Exchange has been able to locate two small scale units who have expressd their desire to develop the item indigenously.

Even in a short span of mere five months, the Exchange has assisted several large and small industrial units in pooling the requirements of demand and supply and enlarging the scope of mutual self-reliance between the large and small sectors. The types of enquiries received in this Exchange for which sub-contractors/sources of suppliers were asked for are:—insulation beads, copper rivets, eccentric shafts, wooden-barrels, C.I. castings, internal grinding of helical gears, dies, aluminium bins, electric horns, metalising of castings, wire cutters, hair springs, machining of components, hot dip galvanising, sardine can keys, aluminising of cast iron liners, sheet metal work for earth moving equipment, clipper knives, knives used in slitting machines and trimming machines, gear trains and worm wheels for optical instruments etc. Experience has shown that large industrial enterprises are increasingly availing the resources of the Exchange in placing their enquiries on the Exchange for which they, by and large, could not find sources on their own initiative.

*Working Results as on* 1.12.1970

| | | |
|---|---|---|
| 1. | No. of enquiries received .. | 122 |
| 2. | No. of enquiries processed .. | 75 |
| 3. | No. of enquiries in process .. | 47 |
| 4. | No. of small scale units registered for machine capacities .. | 350 |

In a country like ours which is on the path of development under the strain of capital shortage, inadequate skill and know how etc., this Exchange will bring the large scale and small scale units closer. This union will make them utilise the available production capacity to the optimal extent and thus considerably reduce the strains and stresses on our economy.

# RAW MATERIAL ASSISTANCE TO THE SMALL SCALE SECTOR

## A. RAW MATERIAL SERVICES

THE freedom of the prospective entrepreneur to choose his line of industrial activity has been an important factor contributing to the rapid growth of the small scale sector of industry. Various programmes of assistance like technical assistance, supply of machinery on hire-purchase basis, construction of industrial estates, participation in the Government Purchase Programme, development of ancillaries, etc. attracted a large number of enthusiastic youngmen to the small scale sector. The Government's Industrial Policy as enunciated in the Industrial Policy Resolution of 1956, assigned a positive role to small scale industries, in the achievement of social and economic objectives within the frame-work of planned economic development.

The process of unrestricted growth of small industry during the last decade and a half has by itself been to a great extent responsible for a number of problems, the foremost of which is inadequate and uncertain supply of raw materials. The shortage of raw materials was particularly experienced towards the beginning of the Second Five Year Plan. Rapid growth of metal working and machinery industries, fabricated metal products and non-ferrous metals-based industries in particular, led to increased demand for various categories of scarce and imported industrial materials. The production of a number of sophisticated items which were hitherto confined to the large scale enterprises was taken up in the small scale sector. Greater emphasis on import substitution, export promotion and quality production resulted in increased demand for imported raw materials. While the demand for certain categories increased significantly, the supply failed to keep pace with the growing requirements due to foreign exchange difficulties and insufficient or lack of indigenous supply.

### Procurement of Raw Materials for Small Scale Sector

One of the major tasks before the Small Scale Industries Development Organisation has been that of devising ways and means for procurement of a larger share of indigenous scarce raw materials and foreign exchange for the small scale sector. Although the development of small scale industries is a State subject, the SSIDO has been actively engaged in the coordination of various developmental activities at the Centre and rendering guidance to the State Governments on matters relating to the rational utilisation of available scarce resources in conformity with the overall objectives underlying development of small scale industries in the country. It has also been working as a Central Coordinating and Controlling Organisation representing the small scale sector in the committees of various administrative Ministries and other allocating authorities concerned with the supply of scarce raw materials to the small scale industries vis-a-vis other sectors. That apart, close and continuous liaison with the organisations of the Chief Controller of Imports & Exports, Iron and Steel Controller, Hindustan Steel Ltd. and central trading Agencies like the Minerals and Metals Trading Corporation and the State Trading Corporation, the Director General of Technical Development, etc. has been maintained to procure not only equitable allocations of raw materials for the small scale sector but also to ensure despatches of the same in accordance with the prescribed schedules. Lack of adequate and comparable data has been a big handicap in putting claims for enhanced allocation of scarce raw materials for the small scale sector. A number of studies highlighting problems of small scale industries on account of paucity or inadequacy of raw materials in relation to actual requirements, delay in despatches and open market purchases at high prices were undertaken from time to time in putting up a strong case for enhanced allocations. Where scarcity of raw materials was persistent, indusry-wise studies to assess the production capacities as well as the difference between requirement and actual allocation, were also carried out in collaboration with the State Directorates of Industries and the Small Industries Service Institutes, and their results utilised in establishing a case for immediate relief to small scale industries. A system of feed-back of information regarding existing capacities, consumption of raw materials and production of items requiring scarce raw materials was maintained with the State Directorates of Industries with a view to communicating the requirement of small scale sector to various allocating authorities and importing agencies at short notice.

### Distribution of Raw Materials

The Study Team on Import and Export Trade Control Organisation which examined working of the procedure of licensing for imported raw materials, components and spare parts had observed that the right authority to evolve a correct basis and make actual state-wise allocation is the Development Commissioner, Small Scale Industries. Till 1959, the Development Wing in the Ministry of Commerce and Industry was the only organisation which assisted industries in the procurement of indigenous and imported raw materials. Since then th Small Scale Industries Development Organisation (SSIDO) has taken up the work for procurement and distribution on behalf of the small scale sector.

The system of allocation of indigenous and imported raw materials had been different for various types of raw materials. In the case of items the imports of which were permitted to the actual users, small scale units obtained till the end of 1964-65 essentiality certificate from the concerned Director of Industries before submitting their application for grant of licence to the Chief Controller of Imports & Exports. The licensing authorities, depending upon the availability of foreign exchange turned down the quantity of imports recommended by the sponsoring authority without assessing the actual requirement of the unit. A similar procedure was being followed in the case of import licensing of iron and steel items by the Iron & Steel Controller. In the case of imported non-ferrous metals, allocations were made by the SSIDO to the State Directors of Industries (who are sponsoring authorities) out of the foreign exchange made available for the small scale sector. Unit-wise recommendations were made to the Minerals and Metals Trading Corporation of India for effecting release of materials against allotment made by the sponsoring authorities. The SSIDO based on the consolidated demands received from the sponsoring authorities, rendered advise to the Central Trading Agencies in the matter of sizes, specifications and types of raw material to be imported on behalf of the small scale sector at various ports. The practice of placing the available foreign exchange at the disposal of the licensing authority was discontinued in the case of iron and steel items with effect from the period October '60—March '61. The sponsoring authorities were empowered not only to certify essentiality but also to recommend actual allocation for import of licensible categories of mild steel on a unit-wise basis within the ceiling specified for their States. This system was later extended to the raw material, components and spare parts for which the licensing authority was the Chief Controller of Imports & Exports.

The State-wise allocations for the import of mild steel items made available for the small scale sector for October '60-March '61 were worked out on the basis of value of import applications sponsored and licensed in each State during preceding three six-monthly periods. Subsequent allocations of foreign exchange for import of iron & steel materials were meant for mild steel items only. Since the requirement of tool and alloy steel were modest, the Iron and Steel Controller had been granting licenses freely on the recommendation of the sponsoring authorities. This system was given up following deterioration in the foreign exchange position and from April '62—September '62 the ceiling specified for each of the sponsoring authorities was inclusive of the requirement of tool and alloy steel.

Position with regard to imports of steel allowed for small scale industries from 1958-59 to 1965-66 is indicated in Appendix I.

The allocation of foreign exchange made to the small scale sector for import of steel constituted only 13 per cent of the total foreign exchange availability for the import of steel and about 30 per cent of the requirement of the small scale sector during the year 1963-64. Besides issue of import licence to actual users for the import of steel, certain categories like galvanised plain sheets, black plain steets (Hot Rolled and Cold Rolled including C.R.C.A. sheets, P.C.R.C.A. sheets, Cold Rolled Deep Drawing quality sheets) and skelp for box strapping were also canalised through the Minerals and Metals Trading Corporation of India in bulk, for distribution among the small scale units through State Small Industries Corporations as per recommendation of the sponsoring authority concerned. Imports of canalised categories of iron and steel were generally arranged against rupee exchange resources earmarked to the small scale sector. Till 1965, the Minerals and Metals Trading Corporation had arranged imports of about 73,000 tonnes of steel from rupee payment countries. Although this meant dependence on the meagre free foreign exchange resources to a lesser extent, small scale industries could not fully utilise their allocations due to non-availability of certain categories of steel in Rupee Payment countries and also on account of higher prices prevailing in these countries.

Import licensing of raw materials, components and spares excluding steel and non-ferrous metals continued to be satisfactory upto the year 1961. The value of import licences issued to small scale units generally exceeded the national ceilings fixed by the licensing authorities. During the Third Plan period, on an average licences worth Rs. 110 million per annum were issued to actual users in the small scale sector. An analysis of the licences issued to small scale units during 1963 also revealed that a vast majority of licences were below Rs. 20,000 each, thus benefiting a large number of small entrepreneurs. The items licensed were all industrial raw materials and components and therefore the actual value added by manufacture through further processing in the country has been quite significant.

The import policy for the year 1965-66 was very much restrictive largely due to the fact that the foreign exchange resources which were earlier available exclusively for developmental work were diverted to Defence during aggression from Pakistan in 1965. As against the grant of 25,221 import licences valued at Rs. 176.4 million in 1,964-65, only 7,066 licences valued at Rs. 44 million were issued in 1965-66 to actual users in the small scale sector. Allocation of foreign exchange for the import of steel were cut by about 80 per cent from Rs. 110.345 million in 1964-65 to Rs. 20.1 million in 1965-66. In the case of imported non-ferrous metals no foreign exchange was made available to the small scale sector. Some nominal releases were, however, made under the Scarce Industrial Materials (Control) Order, 1965 out of the frozen stocks.

Following devaluation of the Rupee in 1966, the Government of India announced a scheme of liberalisation of imports of raw materials, components and spares for the year 1966-67. The emphasis was to provide industries with adequate raw materials to meet their justifiable requirements. The scheme of liberalisation initially announced for raw materials, components and spares within the jurisdiction of the Chief Controller of Imports & Exports was subsequently extended to embrace ferrous and non-ferrous metals. Manufacturing indusrties were broadly classified as priority and non-priority, the former (59 specified industries) were assured of adequate supplies to the extent of their full requirements by way of grant of special and supplementary licences and for the latter, allocations were based on residual availability of resources after the needs of priority industries were met. The scheme of liberalisation applied to industrial units in the small scale sector in all its aspects and entitled them to enhanced import assistance on the basis of past consumption. As per terms envisaged under the import liberalisation policy, the then existing units belonging to the priority category of industries were entitled to the grant of special licences to an extent of three times the value of import licences issued to them in 1964-65 or twelve times of that in 1965-66. In the case of industries other than priority, the policy provided for issue of licences to an extent of twice the value of licences issued to them in 1964-65 or eight times of those issued in 1965-66. By making small scale units entitled to apply and to get import licences on precisely the same basis as applicable to scheduled industries, the liberalisation scheme pacified complaints against discriminatory treatment hitherto accorded to small scale industries. The scheme put an end to the system of sectoral and State-wise allocations and had placed the small scale sector in a better position by doing away with the system of ad hoc allocation which was working very much to the disadvantage of small scale indutstries. Further, the decanalisation of non-ferrous metals satisfied actual users in the small scale industries sector as they were allowed to effect direct imports like those in large scale sector. The option under liberalized import policy to arrange imports, either directly or through the MMTC or State Small Industries Corporation or Established Importers, etc. had enabled the actual users in the small scale sector to effect imports in the manner they considered to be in their best interests. The facilities like rotational issue of licences, freedom to apply for import licences at any time and extension in the validity period of income-tax verification certificate have further streamlined the licensing procedure and enabled industries to import their requirements, as and when needed. The procedure for issue of licences has also been considerably shortened in as-much-as the State Directors of Industries are required to handle only cases relating to new units. The existing or the so-called 'old' units need not approach their sponsoring authorities for recommendation of import licences. The liberalized policy has been production-oriented and industries which are efficient and capable of rapid productive turn-over reaped maximum benefit out of the scheme. Such industries imported their requirements as frequently as they could after producing evidence with regard to the utilization of the materials imported by them earlier. Besides, a greater degree of flexibility, with regard to the items and areas of import, was envisaged under the liberalized scheme. This was done to facilitate the diversification of production activity of small scale industries who under the prevailing conditions wanted to manufacture items that commanded higher priority in the national economy. For export-oriented industries, greater freedom of choice in respect of items to be imported and the sources of their supplies, had also been accorded.

With regard to industries other than those on the priority list, the import licences were issued only once during the licensing year. In view of the difficult foreign exchange position the Government did not generally favour setting up of new industries in the non-priority sector. In respect of non-ferrous metals, such industries had to depend on the MMTC for their requirements. This provision applied to industries both in the large and small scale sectors.

The value of import licences issued to actual user in the small scale sector during the year 1966-67 recorded a peak licensing of Rs. 740.9 million. Licensing done during this year was eighteen times greater than that of the previous year. Further combined licensing allowed during the entire period of Third Plan between 1961-62 to 1965-66 compared about 40 per cent lower than the licensing done during the single year 1966-67. A study conducted by the SSIDO on the licenses issued by the Controller of Imports & Exports under the Import Liberalisation Policy showed that 47.5 per cent of the total value of licences issued was in respect of priority industries. As for the regional distribution of the licences issued to five states namely, Maharashtra, West Bengal, Gujarat, Delhi and Tamil Nadu accounted for about 63 per cent of the total. Maharashtra alone got about 25 per cent of the total value of licences issued. Among 59 priority industries, 9 industries accounted for about 71 per cent of the total value of licences issued to industries in the priority category. In the category of non-priority industries low value licences predominated because of lower multiple allowed to them and also on account of the restriction on the grant of more than one licence in a year. New enterprises including those applying for import licences were granted for the first time licences on the basis of Essentiality Certificates issued by the Director of Industries concerned, exactly the pattern on which the large scale units were getting on the recommendation of their sponsoring authorities.

From the import licensing statistics indicated in Appendix II, it will be seen that the tempo attained during the year 1966-67 could not be maintained as a number of import restrictions were imposed during subsequent years. Value of initial import licences issued to new units both in the priority and non-priority industries was related to the value of machinery and equipment installed subject to a maximum limit of Rs. 50,000 irrespective of the requirement of the unit. A number of items which were earlier allowed to actual users in the small scale sector were later restricted on the ground of indigenous availability.

Imports in the case of such items were permitted generally to the extent of 5 per cent to 10 per cent of the face value of the licence subject to a maximum of Rs. 10,000. The mode of financing of licences of small scale units was also not satisfactory as their import entitlements were financed equally through three different sources namely General Currency Area, U.S. Aid and Rupee Payment Area, on an arbitrary basis without establishing the availability of material from these sources. The facility of conversion of licence from one area to another, though allowed, was an expensive affair since by getting conversion to General Currency Area 75 per cent of the value of the licence had to be surrendered. As a result of these restrictions not only the value licensed fell from Rs. 497.7 million in 1967-68 to Rs. 367.2 million in 1968-69 but the number of import licences also decreased from 21,434 in 1967-68 to 1,969 in 1968-69. During the year 1969-70 licences worth Rs. 655.7 million were issued to small scale units for import of raw materials, components and spares including ferrous and non-ferrous metals. Increase in the units registered over the preceding year can be attributed partly to the inclusion of iron and steel items licensing and partly on account of some further relaxations in the initial entitlement of new entrants. During 1969-70, import licences were issued to about 35,000 units, which constitute about 25 per cent of the number of small scale units then registered with the Directorates of Industries all over the country. The value of import licences issued to Maharashtra, West Bengal and Uttar Pradesh accounted for more than 50 per cent of the total value of licences issued to all actual users in the small scale sector. The distribution of import licences, among priority and non-priority sectors in terms of value was Rs. 297.3 million and Rs. 358.4 million respectively. Among priority group of industries, five industries namely Drugs, Organic and Inorganic chemicals, Electric Wires & Cables, Paints & Varnishes and Agricultural Machinery & Implements accounted for above 60 per cent of the total value of licences issued to small scale units. It would be of interest to note that about 42 per cent of the total foreign exchange assistance to priority industries was financed from free foreign exchange.

In view of the importance of non-ferrous based industries in the small scale sector, the SSIDO has been constantly endeavouring to procure necessary foreign exchange for the purpose. It would be evident from Appendices III and IV that although the allocation of imported non-ferrous metals, particularly copper and zinc registered a progressive increase upto the year 1962, the foreign exchange restrictions followed by an emergency and increase in international prices of non-ferrous metals made the position difficult and the availability of non-ferrous metals in terms of tonnage shrinked considerably to the disadvantage of small scale industries. Supply of copper during the licensing period October '64—March '65 was drastically cut on account of withdrawal of Colombo Plan imports. Increase in the International price of zinc coupled with a cut in foreign exchange allocation resulted in persistent shortage of zinc to small scale industries. In the case of lead and tin the slight improvement in the foreign exchange allocation accounted for was wiped off by an increase in their prices. The allocation of nickel to the small scale sector was also considerably less during the period October '54—March '65.

The Indo-Pakistan conflict in 1965 made the supply position of non-ferrous metals more difficult due to intensification of measures to confine their use by Defence and other priority services. The Scarce Industrial Material (Control) Order 1965 came into force from September, 1965 bringing copper, zinc, lead and tin under its purview. All unreleased and unutilised quantitites of the said non-ferrous metals were frozen and became inoperative. The involvement of a number of distributing agencies like the MMTC, the State Small Industries Corporations etc. which accounted for a time-lag of a year or so between the allotment of the material and its physical delivery, resulted in the freezing of a major part of unutilized allocation of small scale industries. However, as a measure of interim relief about 50 per cent of the quantities allocated to the small scale sector for the period October '64—March '65 were made available for the consumption of small scale units during 1965-66. The State Directors of Industries were appointed as the Controllers of Scarce Industrial Materials for their respective States for the purpose of authorising the use of non-ferrous metals to the extent of the ceiling specified for the purpose. Subsequently in 1966 the Government announced a scheme of liberalisation of imports of raw materials, components and spares including non-ferrous metals.

Under the current import policy, actual users in the small scale sector belonging to the priority category of industries are generally issued licences for direct import of non-ferrous metals from sources other than Rupee Payment Area. In the case of all non-priority industries as well as such priority industries requiring non-ferrous metals from Rupee Payment

Area, release orders are issued by the licensing authorities on the Minerals and Metals Trading Corporation of India for supply of material to the user-industries.

The import of various non-ferrous metals canalised through the Minerals and Metals Trading Corporation of India on behalf of the small scale sector against release orders issued by the licensing authorities is given in Appendix V.

Of late greater emphasis on the development of non-ferrous metals industry with a view to meeting the country's requirements from indigenous production, has in fact resulted in the allocation of some of the indigenous non-ferrous metals to small scale industries. Allocations of electrolytic grade aluminium, zinc, antimony and cadmium made to the small scale sector in the recent years are indicated in Appendix VI.

Of the indigenous non-ferrous metals, aluminium is of special significance in view of its being a good substitute for imported non-ferrous metals like copper, zinc, nickel, etc. As a result of concerted efforts made by the SSIDO the allocation of electrolytic grade aluminium chiefly used in the manufacture of ACSR and AA conductors was increased from 6,000 tonnes in 1968-69 to 25,000 tonnes in 1970-71. Present availability of this material is sufficient to meet about 75 per cent of the requirements on single shift basis of ACSR and AA conductors manufacturing units in the small scale sector. Antimony required by small scale industries engaged in the manufacture of storage batteries and type foundry etc. has been made available since 1966-67 at the rate of 90 tonnes per annum. Also for the first time a quantity of 12 tonnes of cadmium metal has been earmarked for supply to small scale industries during the year 1970-71.

Due to inadequacy or lack of mineral resources of other non-ferrous metals in the country, non-ferrous metals based industries continue to depend on imports to a considerable extent. Production of copper, zinc and lead in the country at present is insignificant as compared to the growing requirements of the industry.

In regard to indigenous iron and steel items, till April-September 1960 licensing period, bulk allocations of steel of all categories were being made to the State Directors of Industries. Since then, due to increased availability of steel from indigenous sources various categories of steel items were taken away from the purview of the Iron & Steel Control Order and allocations under the small scale industries quota were restricted to flat products like black plain sheets, galvanised plain sheets and galvanised corrugated sheets. The allocation under the SSI quota was distributed on the basis of demands collected from the State Directors of Industries. Details of allocation made from time to time are given in Appendix VII.

The allocation of tin-plates (cut downs and waste-waste) began to be made to the small scale sector from the period January-June 1963 and that of tin-plates (prime) was made for the first time from April-September, 1965. Prior to this, small scale industries were not getting any allocations of tin-plates from indigenous production. State-wise allocations were made on the basis of demands collected from the State Directorates of Industries as in the case of other categories of indigenous steel. The Directorates of Industries were, however, requested to allot tin-plates (prime) only to such of those existing small scale industries which could not utilise other categories (i.e. cut down and waste-waste, etc.) as substitutes.

As against the allocations of iron and steel items, the despatches, however, had been very poor especially in the year 1959-60. It was, therefore, decided that from 1960-61 onwards 1/3 of the allocations of various categories of steel made under the SSI quota should be planned and supplied on priority basis. With the setting up of the steel Priority Committee a revised procedure for allocation of priority was introduced from July '64 onwards, under which detailed reasons for seeking priority for each individual work-order had to be furnished to the Steel Priority Committee.

The statutory control over the prices and distribution of all categories of steel was withdrawn with effect from Ist May, 1967 and thereafter anybody could purchase and sell freely a variety of iron and steel produced in India. However, to meet the vital requirements of important industries, the Steel Priority Committee in the Department of Iron & Steel continued to give directions to the Joint Plant Committee regarding supply, on priority basis, of certain categories which were comparatively in short supply.

The requirements of small scale units in respect of scarce items were to be sponsored and recommended by the State Directorates of Industries for cosideration by the Steel Priority Committee. Experience has shown that considerable time was taken by the Joint Plant Committee for processing the indents made by the State Directorates of Industries.

Under the new distribution policy, announced by the Ministry of Steel & Heavy Engineering on 22.5.70, the system of making allocations for 'scarce' items of steel has been abolished. The small scale industrial units requiring steel for genuine purposes can submit their indents on the Steel Plants through the Joint Plant Committee without any ceiling. After their indents are planned by the JPC and sales orders issued by the producers, the small units can take up the matter with the State Directorates of Industries for issue of recommendations for allocation of priority for despatch. The Development Commissioner (Small Scale Industries) has been nominated as a member of the Re-constituted Steel Priority Committee. The Steel Priority Committee meets quarterly under the revised distribution policy to decide allocations to all indentors both from large and small scale sectors. Under the revised procedure, the small scale units were required to pay an earnest money equal to 15% of the value of the steel indented. As it is difficult for the small scale units to bear this financial burden, the matter was taken up with the Ministry of Steel & Heavy Engineering and the provisions for depositing the earnest money against the indents for steel have been relaxed to the extent that the existing units have not to pay anything upto a minimum limit of 200 tonnes. So far as new units are concerned, an allocation of 60,000 tonnes of steel has been earmarked for supply to new units against which the new units will not be required to pay any earnest money.

A large variety of industrial raw material and 'semis' manufactured in the country are freely available through normal trade channels. For these, small scale units are expected to procure their requirements from the open market or directly from the producers. In the absence of any statutory control over distribution and prices of such materials, small scale industries sometimes find it difficult to procure these at reasonable prices from the suppliers who generally are themselves producers of the basic or intermediate products as well as processors of the end-products. In order to safeguard the interest of small scale industries, the SSIDO, from time to time, suggests to the Ministry of Industrial Development not to allow large scale units to take up the production of items whose production is technically and economically feasible in the small scale sector.

**Distribution Policies**

An appraisal of the supply position provided in the foregoing paragraphs fully indicates that it was owing to the limited foreign exchange resources at the disposal of SSIDO coupled with the inadequacy of indigenous supply that small scale industries could not get scarce raw materials as per their requirements. In order to make the best use of the available resources, the SSIDO has been formulating from time to time suitable policies and procedures for distribution of various raw materials. The basis for State-wise distribution of scarce raw materials, keeping in view the additional requirements of new industries in developing areas, had been evolved in consultation with the State Directorates of Industries. In order to avoid precious foreign exchange and scarce raw materials being frittered away on production of items of low priority in the national economy, a number of restrictions were imposed. The SSIDO in its advisory capacity has been suggesting to the State Directors of Industries the lines of production in which they should not encourage additional capacities. Import substitution schemes were given special attention. The Directors of Industries were specifically asked to introduce austerity measures in the use of many non-ferrous metals and assist small scale units in switching over to the use of more easily available indigenous raw materials wherever technically and economically feasible. Mention in this connection may be made of galvanising of steel pipes, wires and buckets, electric fans, lighting fittings, domestic electrical appliances, electroplating industry, water-meter industry, building hardware industry and a lot of other industries using non-ferrous metal in one way or the other. Distribution policy in respect of utensil industry was reviewed in particular and it was decided to reduce the allotment to existing units to 30 per cent. The Directors of Industries were advised to disallow new units being set up for the manufacture of domestic utensils using copper, brass, etc.

As it was not possible to meet the assessed requirements of industry dependent upon scarce raw materials, suitable criterion for determining priority for allocation of such raw materials among different industries were drawn up. State Directorates of Industries were also advised to strengthen their inspection staff for carrying out ex-post facto checks regularly so as to weed out bogus firms.

Special facilities were extended to certain small scale units in view of their importance in the national economy. Small scale units in the priority sector exporting 10 per cent or more of their production were granted licences from preferred sources of supply and facilities for further expansion in their export production. Units exporting more than 25 per cent of their production were released free foreign exchange to their full requirements. Liberal import facilities as well as greater latitude in the selection of sources of supply were also extended to non-priority units exporting

10 per cent or more of their production. Although the Government announced compulsory export obligation for 13 industries, small scale units belonging to these industries were, however, exempted from the clause of compulsory exports. Some of the imported categories of steel required by small scale exporting units were made available at international prices. Arrangements were also made to make immediate releases of materials, out of the stocks with the STC and MMTC, on surrender of import licences. Certain items banned for import to actual users were allowed for import to exporting units against their import entitlements.

Whenever possible, special facilities with regard to supply of scarce raw materials have also been extended to small scale units in rural and backward areas, ancillaries, defence items and industries having agro-industrial base. Quotas of ferrous and non-ferrous metals were also set apart for meeting the requirements of such industries.

### Equity Aspect

Another problem relating to supply of imported and scarce raw materials has been the procurement of an equitable share of the small scale sector. This problem has been engaging the attention of the Government and the SSIDO in particular and a number of policy and procedural measures were introduced to alleviate discrimination against the small scale sector. The International Perspective Team which reviewed, as far back as in 1962, the progress of small scale industries in the country observed that the "inequities in distribution of raw materials and imports are so severe that they tend to override all other types of assistances offered to small firms by the Government". The Team also found out that while large scale industries were allotted raw materials upto 85 per cent of their requirements, the small scale units received allotments to cover only 33 per cent to 40 per cent of their one-shift requirements. The Lokanathan Committee on Scarce Raw Materials appointed by the Government in August 1964, to make recommendations in regard to the steps necessary to ensure equitable distribution of available scarce raw materials among large, medium and small scale sectors also observed that the available scarce raw materials were adequate to meet only about a third of the requirements of the small scale sector, whereas the units in the large scale sector were able to utilize between half and two-third of their production capacities.

The Estimates Committee of the Lok Sabha which examined the working of the SSIDO was constrained to observe that although the declared policy of the Government was to favour small scale industry, in practice, small scale industry has been discriminated against in respect of allocation of scarce raw materials. The Estimates Committee stressed that in the context of continuing shortages, it was all the more necessary that solution to the problems of equitable distribution should be sought expeditiously. It recommended that the share of scarce raw materials allocated to this sector must at least be commensurate with its contribution to the total industrial production. The Administrative Reforms Commission Report on Small Scale Sector also urged that there should be equitable distribution of scarce raw materials between the large scale and small scale sectors, based on the priority of the end-products. In this connection enlargement of the existing list of priority industries to include industries of importance in the small scale sector, conversion of release orders into import licence on failure of the MMTC to release non-ferrous metals to small scale units within three months and reservation of a certain percentage of scarce indigenous materials for distribution to the small scale industries, etc. were recommended.

With the liberalisation of the import policy and the consequent streamlining of the import licensing procedure, a number of fields where industries in the small scale sector were subjected to discriminatory treatment came to an end. The system of ad hoc sectional and state-wise allocation of foreign exchange was replaced by a system whereby entitlements were correlated to the priorities of the end-products produced by the units, irrespective of the sector to which these units belonged. Certain restrictions subsequently imposed by the Government to check abnormal growth of licensing in the small scale sector revived the feeling of discriminatory treatment being accorded to this sector. This matter was brought up for discussion in the 26th & 27th meetings of the Small Scale Industries Board and in the meetings of the Standing Committee on Raw Materials of the Small Scale Industries Board which was reconstituted in June 1967 under the chairmanship of Shri A.R. Bhat, President, Federation of Associations of Small Industries of India and recommendations were made to the Government for doing away with these discriminatory provisions. As a result of recommendations made by the Small Scale Industries Board and its Standing Committee on Raw Materials some improvements were made in the policy with regard to import entitlements of new small scale units. According to the import policy for the year 1969-70 the new entrants in the priority group of industries were to get their initial import entitlement to the extent of 100 per cent of the value of machinery and equipment installed in the case of Chemicals, Drugs & Medicines and Pesticide Formulations, 70 per cent in the case of electronic components and 30 per cent in the case of other priority industries. In the case of non-priority industries the new units were to get an import licence to the extent of 30 per cent of the value of machinery and equipment installed. There was, however, no change in the upper limit which continued to be Rs. 50,000. In the case of items licensible on restricted basis also some upward revision was made in the percentage but there was no change in the mode of financing.

Another important change announced under the import policy for 1969-70 was the centralisation of the whole import licensing system under one central agency i.e. Chief Controller of Imports & Exports. The Office of the Iron & Steel Controller which was earlier working under the Ministry of Steel and Heavy Engineering was transferred to that of the Chief Controller of Imports & Exports from Ist April 1969. These changes were only improvements on the existing practice. But the basic issue of the continuation of discriminatory provisions against the small scale industries was still unsolved. It was in this context that a high level Committee consisting of the Joint Secretary in the charge of Small Scale Industries in the Ministry of Industrial Development, Internal Trade and Company Affairs, Economic Adviser to the Ministry of Industrial Development, Internal Trade and Company Affairs, Chief Controller of Imports & Exports and Senior Industrial Adviser from the Directorate General of Technical Development was appointed by the Ministry of Industrial Development, Internal Trade and Company Affairs in 1969 to examine points of discrimination and make suitable recommendations to the Government for adopting remedial measures in this regard. The Committee after due deliberations has agreed in principle to give imported raw materials to the small scale industries on the basis of their production capacity as their counterparts are getting in the large scale sector. For this purpose an all-India survey to assess the production capacities of small scale units requiring imported raw materials has already been launched and it is hoped that on the availability of capacity data, the import policy will be revised suitably to make available imported raw materials to the small scale industrial units both exsiting and new ones, on the basis of their assessed production capacity.

Pending results of the survey of capacities an upward revision of the ceiling from Rs. 50,000 to Rs. 75,000 has been made in respect of import entitlement of new small scale industrial units in the current Import Policy for 1970-71.

Some improvement has also been made in respect of mode of financing. Under the new policy the small scale units will be getting 50 per cent (instead of 33⅓ per cent) of their import entitlement financed out of Free Foreign Exchange and of the remaining 50 per cent, 25 per cent from U.S. Aid or Rupee Area and 25 per cent against U.K. Credit. It may be pointed out here that previously the small scale units used to get 50 per cent of their import entitlement from Free Foreign Exchange only on conversion and that too by surrendering their entire entitlement of U.S. Aid and Rupee Payment Area licences. Efforts are still being made to obtain a larger share of Free Exchange for the small scale units.

In so far as the policy with regard to items licensible on restricted basis is concerned, the problem almost stands solved with the announcement of the current policy. Not only has there been an upward revision in the percentages but in majority of the cases the ceiling has been abolished. Unlike in the past, there have been no complaints from the small scale units on this account. The suggestion for making available these materials to the small scale units on the basis of recommendations of the sponsoring authorities, as it is being done in the case of large scale industries, was also examined but it was found that this proposition will not work in the case of the small scale industries where the sponsoring authorities being ignorant of the total availability of the indigenous production of the item(s) and requirements, may find it difficult to recommend the import of such items to different units.

In order to give some relief to the genuine actual users from the rigours of import policy, a built-in provision has been made in the import policy for making representation for liberalisation of import policy in respect of import of individual item(s) of raw materials, components, spares and machinery & equipment. These suggestions are considered by the Inter-Departmental Committee of CCI&E on which Development Commissioner, Small Scale Industries, is also represented to watch the interests of actual users in the small scale sector. On the approval of the suggestion by the Committee, a public notice is issued by the CCI&E amending the policy in this regard.

Similarly a provision has also been made in the

Import Policy for providing relief to the actual users where the operation of the existing policy creates hardship and which is likely to affect the industrial development. In such cases the representation can be made by the actual users to the Special Committee headed by CCI&E through the sponsoring authority concerned. The Development Commissioner, Small Scale Industries, is also represented on this Committee to look after the interests of small scale units. The SSIDO has also played an advisory role in respect of applications for licences for imports received by the Chief Controller of Imports & Exports from the small scale industries. Although the work pertaining to the approval of phased production programmes has been entrusted to the State Directors of Industries consequent on the decentralization of foreign exchange ceilings, the SSIDO however continues to give guidance to them on specific points, wherever necessary. In the formulation of import policy with regard to actual users in the small scale sector, the SSIDO has got a very effective say in the matter. From time to time the SSIDO advises the CCI&E, Iron and Steel Controller and other licensing authorities about the items that should be banned for import and also about banned items that should be made permissible. Suggestions made by SSIDO have received due consideration in evolving policies for the supply of raw materials and import licensing as a result of which a number of procedural difficulties faced by the small industries have been overcome.

## APPENDIX I

*Amount of Import Licences Issued/Foreign Exchange Allocation in respect of Steel for Small Scale Sector*

| Period | Amount of import licences issued/total allocation of foreign exchange made for import of steel for small scale sector (Rs. million) |
|---|---|
| 1958-59 | 34.71 |
| 1959-60 | 50.00 |
| 1960-61 | 90.00 |
| 1961-62 | 60.40 |
| 1962-63 | 80.00 |
| 1963-64 | 75.00 |
| 1964-65 | 110.35 |
| 1965-66 | 20.10 |

## APPENDIX II

*Allocation of Foreign Exchange to Small Scale Sector for import of Raw Materials, Components and Spares licensible by the Chief Controller of Imports and Exports*

| Period | Value of licences issued (Rs. million) |
|---|---|
| October 1959—March 1960 | 68.4 |
| April 1960—September 1960 | 73.5 |
| October 1960—March 1961 | 67.7 |
| April 1961—September 1961 | 67.4 |
| October 1961—March 1962 | 98.4 |
| April 1962—September 1962 | 50.0 |
| October 1962—March 1963 | 45.0 |
| April 1963—September 1963 | 62.0 |
| October 1963—March 1964 | 60.0* |
| April 1964—September 1964 | 70.0* |
| October 1964—March 1965 | 60.0* |
| April 1965—March 1966 | 44.00 |
| April 1966—March 1967 | 740.9† |
| April 1967—March 1968 | 497.7† |
| April 1968—March 1969 | 367.2† |
| April 1969—March 1970 | 655.73‡ |

* This indicates the ceiling alloted and not the value of licences issued.

† This includes non-ferrous metals as well.

‡ This includes non-ferrous metals and Steel items.

## APPENDIX III

*Allocation of Imported Non-ferrous Metals to Small Scale Industries (in tonnes)*

| Period | Copper | Zinc | Lead | Tin | Nickel | E.C. Grade Aluminium Imported |
|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| 1958-59 | 9445 | — | — | 1600 | — | — |
| 1959-60 | 13047 | 10775 | 413 | 1600 | — | 450 |
| 1960-61 | 16818 | 13120 | 400 | 1600 | — | 500 |
| 1961-62 | 23600 | 24100 | 500 | — | — | 2533 |
| 1962-63 | 21033 | 17104 | 472 | 530 | 78 | 3000 |
| 1963-64 | 22500 | 16364 | 422 | 830** | 167** | 2500 |
| 1964-65 | 15525 | 10555 | *1500 | 939 | 72 | 2191 |
| 1965-66 | 2575 | 2411 | 487 | 235 |  | 1585 |
| 1966-67 | † | † | † | † | † | † |
| 1967-68 | † | † | † | † | † | † |
| 1968-69 | † | † | † | † | 25 | † |
| 1969-70 | † | † | † | † | 34‡ | † |
| 1970-71 | † | † | † | † | 37 | 5000 (Provisional) |

* This includes 195 tonnes reserved for defence projects.

** Combined allocation for October 1962-March 1963 and April-September 1963.

† Allocation of Nickel Anodes.

‡ Import liberalised. The value of import licences issued have been included in Appendix II. The value of release order issued to actual users in the small scale sector is given in a separate Appendix V.

## APPENDIX IV

*Statement showing Allocation of Foreign Exchange for the Import of Non-ferrous for Small Scale Sector (in lakhs of rupees)*

| Period | Copper | Zinc | Lead | Tin | Nickel |
|---|---|---|---|---|---|
| April '62—September '62 | 445.40 | 133.60 | 2.50 | 37.50 | 8.00 |
| October '62—March '63 | 360.00 | 92.00 | 2.00 | 58.00 | 7.00 |
| April '63—September '63 | 360.00 | 90.00 | 2.00 | 50.00 | 7.00 |
| October '63—March '64 | 360.00 | 90.00 | 6.00 | 58.00 | 7.00 |
| April '64—September '64 | 387.00 | 100.00 | 6.00 | 75.00 | 7.00 |
| October '64—March '65 | 371.13 | 5000* MT | 12.00 | 75.00 | 6.00 |

* Under Trade Plan Provision
1 Lakh = 0.1 million
MT meaning metric tonnes

## APPENDIX V

*Position of Non-ferrous Metals Releases as on 31st March in respect of Release Orders received upto 25-3-1970*

| PERIOD | COPPER | | LEAD | | TIN | | ZINC | | NICKEL | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Allocations | Releases | Allocations | Releases | Allocations | Releases | Allocations | Releases | Allocations | Releases |
| 1967-68 | 173.93 | 163.05 | 4.10 | 3.25 | 1.98 | 1.56 | 2.20 | 1.05 | 6.20 | — |
| 1968-69 | 491.56 | 430.43 | 19.35 | 19.35 | 97.09 | 83.63 | 28.18 | 21.63 | 21.68 | 1.29 |
| 1969-70 | 199.97 | 91.18 | 16.68 | 9.90 | 99.94 | 61.59 | 34.60 | 10.86 | 7.18 | — |

* For 1967-68 period the figures in columns of allocations depict the total allocations outstanding as on 1-5-69 and/or fresh allocations received after that date and in the column for releases, the releases made against them after 1-5-69.

1 lakh = 0.1 million

## APPENDIX VI

*Allocation of Indigenous Non-ferrous Metals to Small Scale Sector*

( in tonnes)

| Period | E.C. Grade Aluminium | Antimony | Zinc | Cadmium |
|---|---|---|---|---|
| 1964-65 | 3000 | 90 | — | — |
| 1965-66 | 3000 | — | — | — |
| 1966-67 | 4000 | — | — | — |
| 1967-68 | 6800 | 90 | 423 | — |
| 1968-69 | 6000 | 90 | 5000 | — |
| 1969-70 | 10,500 | 90 | 5625 | — |
| 1970-71 | 20,000 | 90 | — | 12 |

## APPENDIX VII

| Period | B.P. Sheets | | | Galvanized Plain Sheets | Galvanized corrugated sheets | Black corrugated sheets | M.S. Plates | | Tin Plates | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10—14 G | 16—20 G | Thinner than 20 G | | | | Below 8 mm | 8 mm and above | Prime | Cut-downs | Waste-Waste | Seconds |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| | | | | | | | | | | | | |
| | | | | *Allocation of Indigenous Steel to Small Scale Industries (in tonnes).* | | | | | | | | |
| 1957-58 | | All Categories | | | | | | 52700 | Nil | Nil | Nil | Nil |
| 1958-59 | | —do— | | | | | | 107950 | | | | |
| 1959-60 | | —do— | | | | | | 275500 | | | | |
| 1960-61 | | Total B.P. Sheets 60960 | | 30480 | 6048 | Nil | — | Relaxed Categories | | | | |
| 1961-62 | | 60960 | | 30480 | 6000 | Nil | ,, | ,, | | | | |
| 1962-63 | | 60000 | | Nil | Nil | Nil | ,, | ,, | | | | |
| 1963-64 | | 90000 | | Nil | Nil | Nil | | ,, | Nil | *7500 | *8800 | Nil |
| 1964-65 | 4000 | 3500 | 10000 | Nil | Nil | Nil | 5000 | Nil | Nil | 6000 | 5500 | Nil |
| 1965-66 | 44000 | 34000 | 15000 | 4000 | 5000 | Nil | 35500 | Nil | 13600 | 8000 | 4200 | Nil |
| 1966-67 | Decontrolled | 31700 | 23000 | Nil | Nil | 4000 | 6000 | 2500 | 25500 | 2400 | 1550 | 4200 |
| 1967-68 | — | 25197 | 19816 | Nil | Nil | — | — | — | — | — | — | — |
| 1968-69 | — | 12466 | 7360 | 13200 | 12525 | — | — | — | — | — | — | — |
| 1969-70 | 23900<br>(8—14G) | 20791 | 13835 | 15000 | 12525 | — | — | — | — | — | — | — |
| 1970-71 | No allocations made under revised steel distribution policy. | | | | | | | | | | | |

*Allocation for priority despatch under the new policy.*

| | October—December 70 | January—March 71 |
|---|---|---|
| Non-Flat Products | 23,696 | 29,298 |
| Flat Products | 19,294 | 27,438 |

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* For the periods January-June 1963 and July 1963-March 1964.

# B. IMPORT SUBSTITUTION

(*Work done in the Small Scale Sector*)

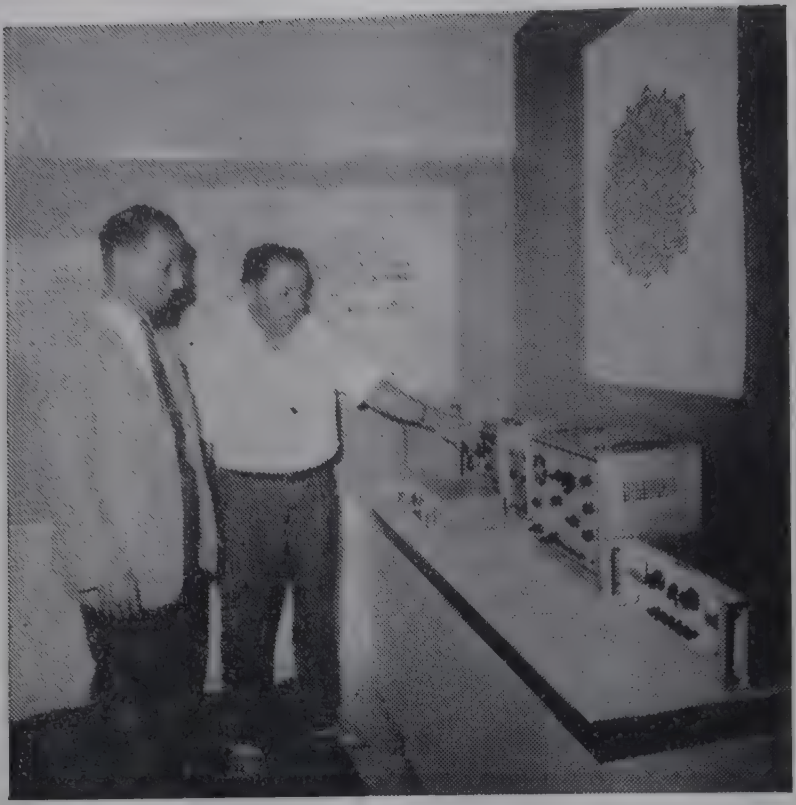
## A PROGRAMME FOR SAVING FOREIGN EXCHANGE

A Seminar and an Exhibition on Import Substitution were recently organised by the SSIDO.

The following pages present *pictorially* the progress made in this direction.

### The Inauguration

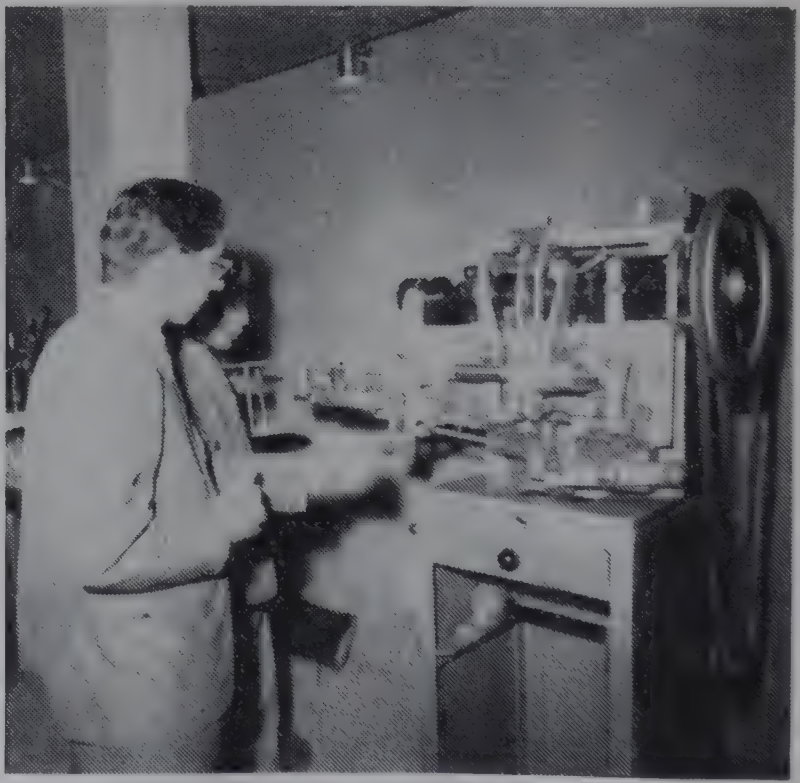
*Shri Fakhruddin Ali Ahmed, former Minister for Industrial Development, Internal Trade & Company Affairs, Govt. of India, inaugurates the Exhibition. Sarvashree K.L. Nanjappa, DCSSI (extreme left) and Shri Bhanu Prakash Singh (Second from left) former Dy. Minister for Industrial Development, Internal Trade & Company Affairs, Govt. of India are looking on.*



*Electronic Instruments exhibited in this picture are now made in India.*

*Cylinder reboring machine at display. This machine is very much required in a number of engineering industries for reboring purposes.*

*A view of the panel containing gear cutters among others which were imported previously.*



*A side-view of the Garment Hooks Making Machine which is currently made in India.*

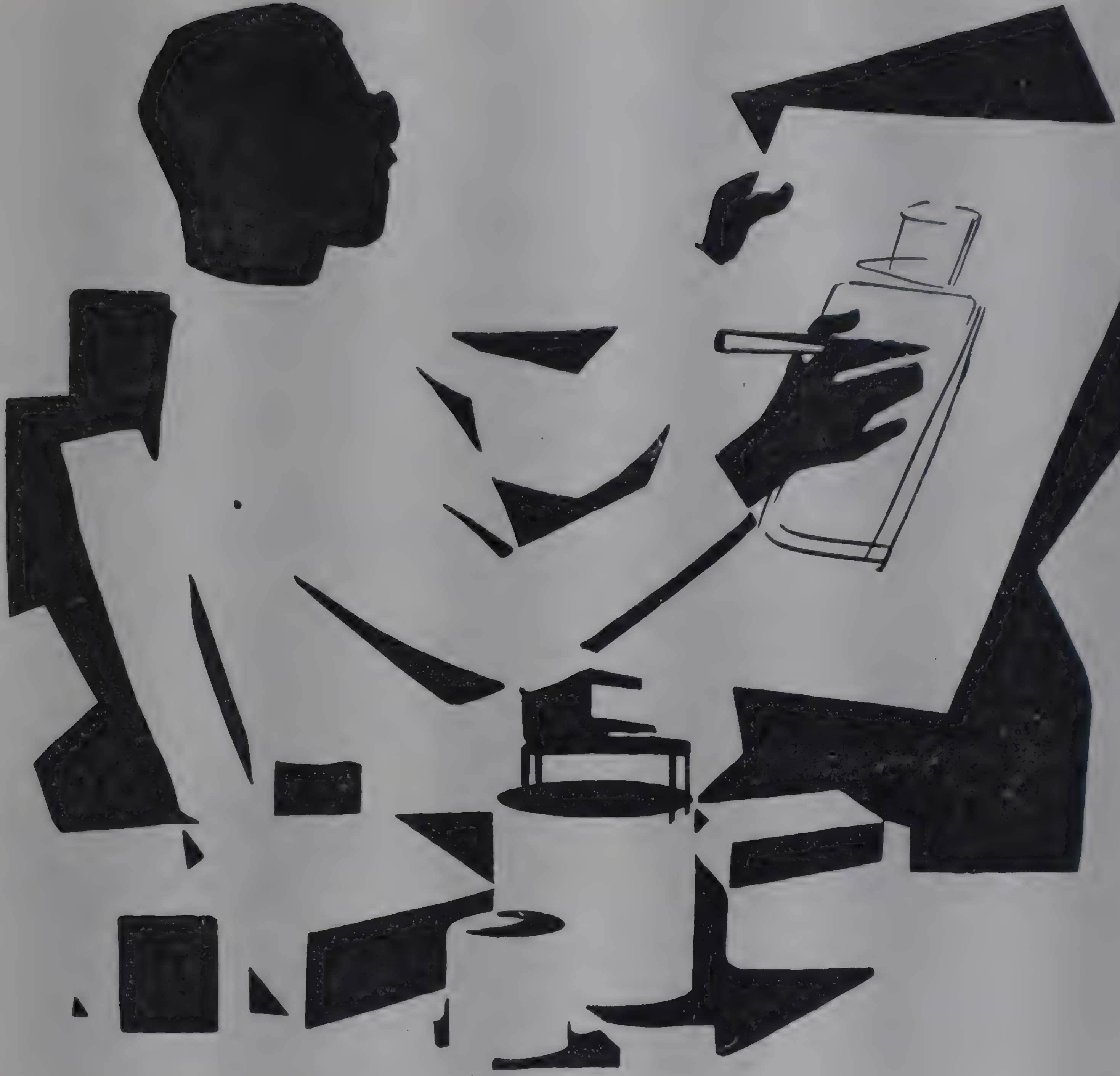
*An Auto Electric Test Bench which was previously imported.*

*Shri Fakhruddin Ali Ahmed, former Minister of Industrial Development, Internal Trade & Company Affairs and Shri Bhanu Prakash Singh, Dy. Minister, Industrial Development, Internal Trade & Company Affairs going round the Exhibition on Import Substitution organised by the DCSSI.*

*Some Components and Spares which substituted Imports are in view.*

*Import Substitution work is done in all the Institutes throughout the country.*

At Kanpur also—*Shri Padampat Singhania, the noted industrialist appreciating the Import Substitution items developed in SISI Kanpur. (Left: Dr. T.G.K. Charlu, Director of Industries, Uttar Pradesh, right: Shri S.H. Jadhav, director, SISI Kanpur).*



# INDUSTRIAL DESIGNS

IN a developing economy, as in our country, the manufacturer usually overlooks the vital factor of product design in his overall pattern of manufacture. This indifference may be attributed partly to ignorance and partly to lack of enthusiasm due to our market being predominantly a sellers' one.

### Aspects of Designing

It would be useful to understand what is "Product Designing". Product designing takes into consideration a synthesis of aspects like functions of the product, aesthetic appeal, economy in materials, packing and presentation aspects and such other complementary and supplementary factors. If any of the factors is eliminated, the resulting product is not complete. In a layman's terms, expressions like "appealing", "beautiful", "comfortable", "cheap", or "sturdy" etc. indicate that the buyer is only vaguely conscious of the forms and functions. In India, industrial production is going up and an increasing range of

*With U.N. aid the Government of India has set up special Institutes, one at Bombay to provide designs for sophisticated electrical measuring instruments and the other at Hyderabad for tool design under the control and guidance of SSIDO. Picture shows Shri K.L. Nanjappa, Development Commissioner (SSI) who is also the Chairman of these Institutes presiding over the Governing Council of the Institute at Bombay.*

household products are coming into the market. Some of the designs of these products are copied from the West with rather poor workmanship. This is partly due to the ignorance of the manufacturer and the buyer. In the process of manufacturing, the function, form and materials are generally not taken into account and the end-product is a poor copy. Industrial design plays an important role in the marketing of the products.

The industry is benefited by a better and simplified design, which in turn enables cost reduction, easy production methods and provides appeal and functional aspects to the product.

**Factors which Determine the Need for Designs in Industry**

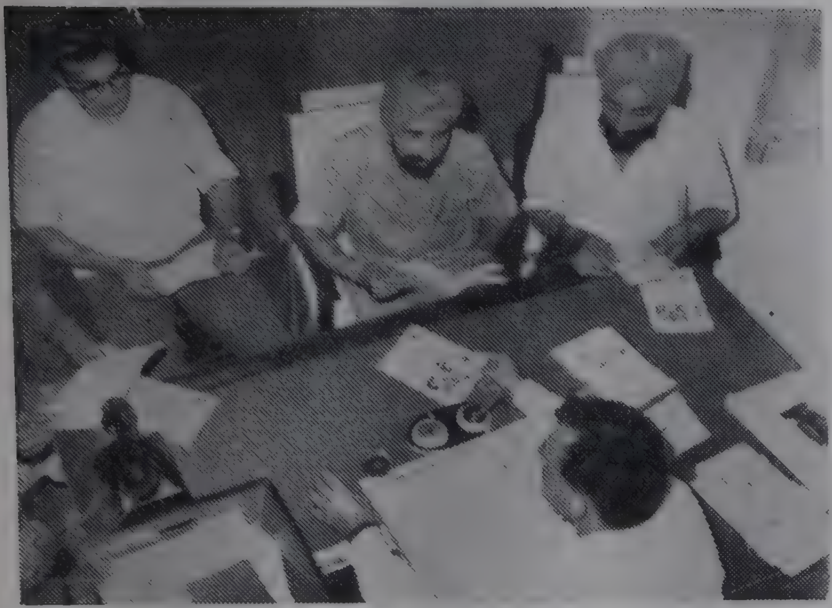
It is necessary that efforts should be made to commercially exploit design talent in the light of the following facts:—

1. Individual initiative as well as innovations are more emphasised and encouraged than ever before. Designers in India should express themselves more freely than before.

2. The shrinking world, brought about by a developing transportation and communication system, has generated intense international competition in business, providing a keen stimulus for new and unique product designs.

3. The consumers today demand that industrial products should offer not only efficiency but also visual appeal, forcing manufacturers to pay greater attention to design than ever before.

4. Increasing export markets also call for improved product designs.



*The manufacture of a product is discussed with the entrepreneurs with the help of a ready-made scheme. The Technical officer at the Extension Centre, Batala discusses the type of drawings required by the entrepreneurs.*

**Supply of Drawings & Blueprints**

As a part of their technical advisory services the Small Industries Service Institutes and their attached Extension Centres were supplying drawings and blueprints to both existing and prospective entrepreneurs. In the beginning stages the type of drawings supplied were simple in nature as the small industry products did not acquire that much sophistication in product appeal and designs. Slowly and steadily the range of products in the small scale sector increased considerably together with the increasing clientele which number today around 0.2 million. There arose also an increasing need for providing improved designs and drawings for existing products. During the period 1964-65 to 1969-70, the net work of SISIs and Extension Centres provided in all 30,441 designs and drawings.

**The Industrial Design Cell**

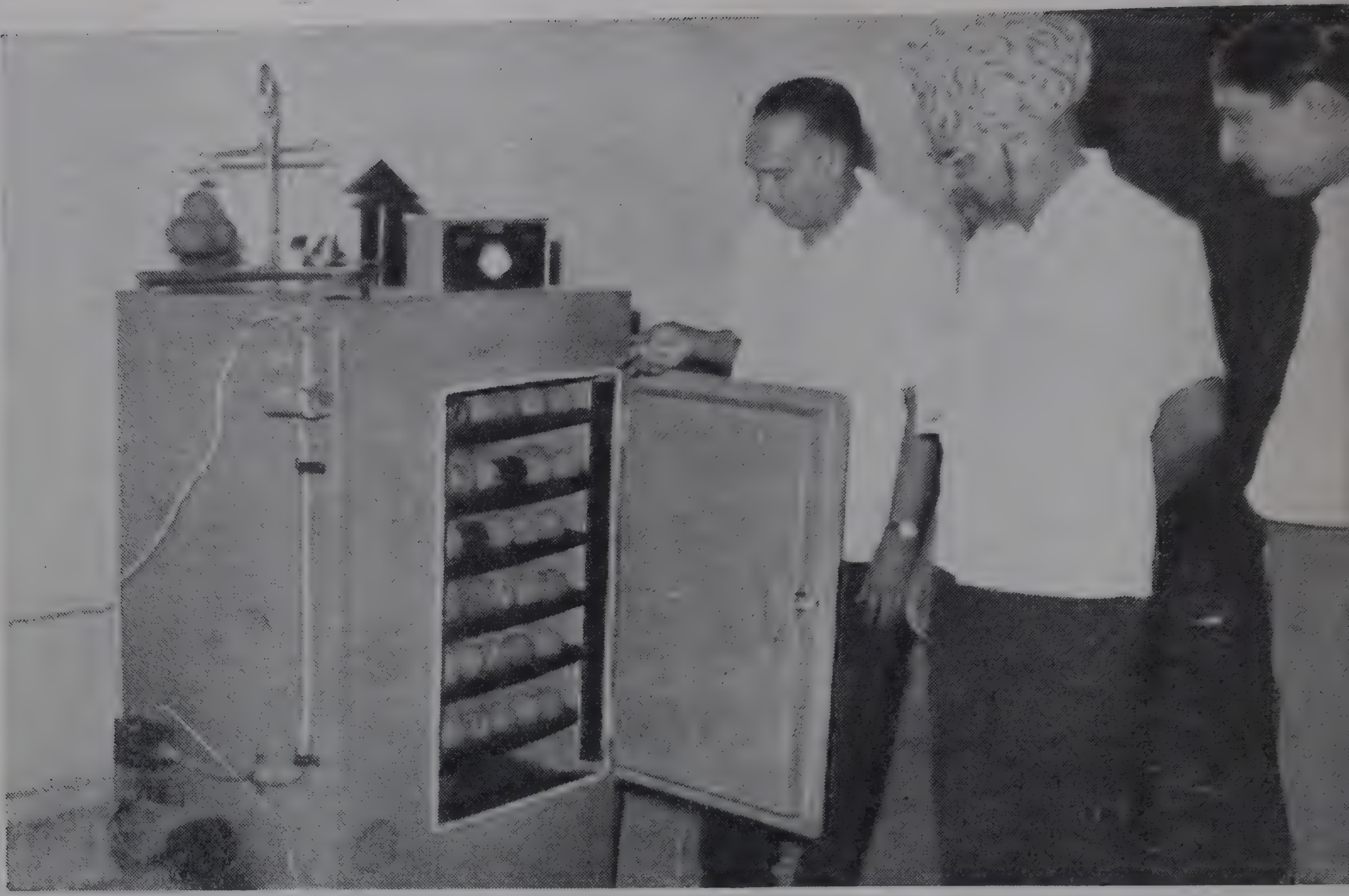
As the small industry sector began to cater to sophisticated internal and export markets, an intense need for original and new product designs which will endow attractive form and appearance to the product, was felt. The small industrialists unlike their large scale counterparts could not bear the financial cost of having their own staff of qualified designers. In order to make this service as complete and comprehensive as possible, a Design Cell was set up in each of the four erstwhile Regional Institutes at Calcutta, Delhi, Bombay and Madras. The object of setting up of these Cells was to study and improve the designs of small industries products. In August 1959, in order to improve its services, the Design Cell was centralised in one office at New Delhi because the common workshop facilities were also available here for making experiments and building actual prototypes. Today, the Design Cell is attached to the Small Industries Service Institute, New Delhi, housed in a modern building with attached workshops consisting of Tool Room, Machine Shop, Heat-Treatment Shop, Ceramics Shop and Laboratories for Chemical and Electrical Research and also a Reading Room and Library with many technical books on Industrial Design and Journals.

Since the setting up of the Industrial Design Cell, the small scale industry in India has made tremendous progress in the field of Science, Technology and Marketing.

To cope up with the constant demand for improvement upon the products, the Industrial Design Cell has been engaged in evolving new forms suitable for production with limited resources and mechanical and technical ability of the small scale units.

The principal function of an Industrial Designer is to create a product which is functionally perfect and has strong aesthetic appeal besides being economical and convenient to manufacture. The designer has to make a study of the capability of the manufacturer in order to determine how the products should be designed. He has also to consider the choice of

*Apart from the Industrial Design Cell at SISI, New Delhi, every Institute has also a separate Drawings & Designs Section like this one at SISI, Ludhiana.*



*A typical product which was designed and developed by SISI, Ludhiana. Picture shows Shri Harkishan Singh, Director, SISI inspecting the electrically controlled seasoning oven for drying of quilt (cores) of hockey and cricket balls.*

colour, material and finish which should be combined in such a way that the product acquires a form which clearly expresses its function.

From the manufacturer's point of view, the most important purpose of industrial designing is to render the production of his products economical and convenient. A good design means significant savings in skilled labour, reduction in a number of production operations and better utilisation of raw materials. These savings cannot be brought about at the cost of the utility and function of the product. This can best be accomplished when the designer has a good understanding of the machines, workers and the existing production methods of the manufacturer.

The Industrial Design Cell of the Institute has been playing a vital and significant role in helping the small scale sector in product design. It is the general impression that most of the products which have been manufactured in the small scale sector are either imitations of imported products irrespective of any consideration of suitability to Indian conditions or their being functionally bad. The Industrial Design Cell has made successful efforts to overcome these lacunae and helped the small scale sector in improving its viability. At present the Industrial Design Cell specializes in Designs for the following industries:

1. Cutlery and Domestic Utensils.
2. Domestic Electrical Appliances.
3. Furniture and Wood Work.
4. Ceramics.
5. Leather Goods.
6. Builders' Hardware.
7. Plastic Goods.
8. Silk Screen Printing.

It also carries out considerable amount of studies and developmental work in some of the newer subjects such as plastics. It has contributed significantly in some areas of small industries development.

A considerable number of the designs developed in the Industrial Design Cell have been implemented and are being commercially manufactured. However, the implementation of the designs which are developed is a continuing process, takes several months before a design can be fully implemented and put into production. This is because it involves different stages such as manufacture of prototypes, designing of dies, jigs, tools and fixtures for full scale production, etc. An analogy of the implementation of designs can be found in the research work which is being carried out by the national laboratories.

### Quantum of Work

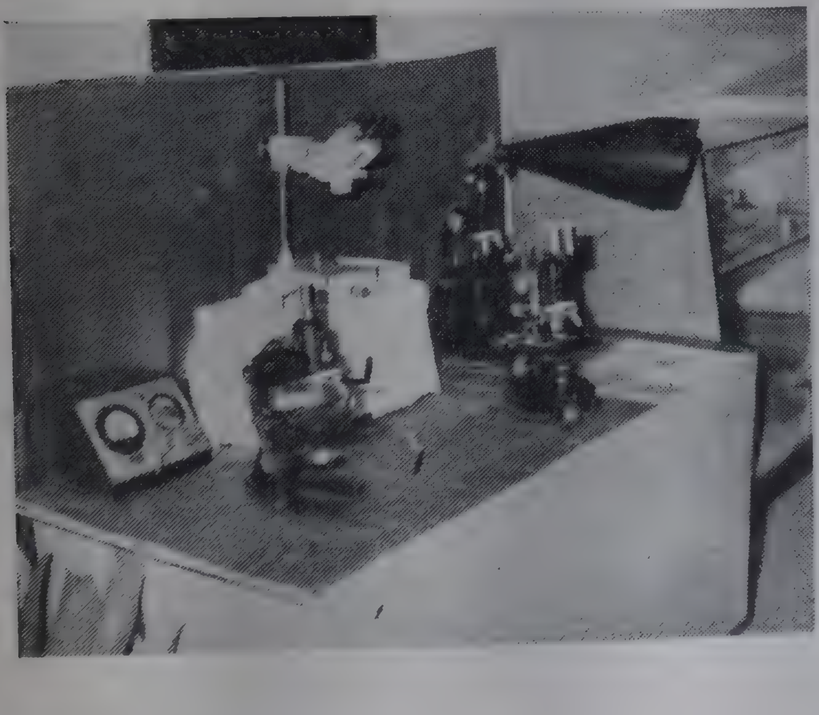
The following figures will show the quantum of work done by the Cell:

| | | |
|---|---|---|
| 1. | Designs Prepared | 1,214 |
| 2. | Drawings Prepared | 1,845 |
| 3. | Dummies & Models | 246 |
| 4. | Blueprints Supplied | 12,065 |

### Participation in Exhibitions

Of late the Design Cell has been actively taking part in the setting up of exhibitions, both permanent and temporary, for small industry development in India. These exhibitions are organised in rural areas also whenever an intensive small industry development programme is undertaken. The exhibitions thus organised not only depict the progress registered in the small industry sector but also mould new entrepreneural talents by displaying the immense opportunities for taking up small industry as a career. The pressing unemployment problem which the country is facing today has necessitated the need for finding self-employment opportunities through the small industry programme. The Industrial Design Cell and its expertise have in no small measure contributed to this development programme.

*The more the sophistication of the product the greater the need for accurate drawings. Picture shows various types of microscopes which are manufactured at Ambala*



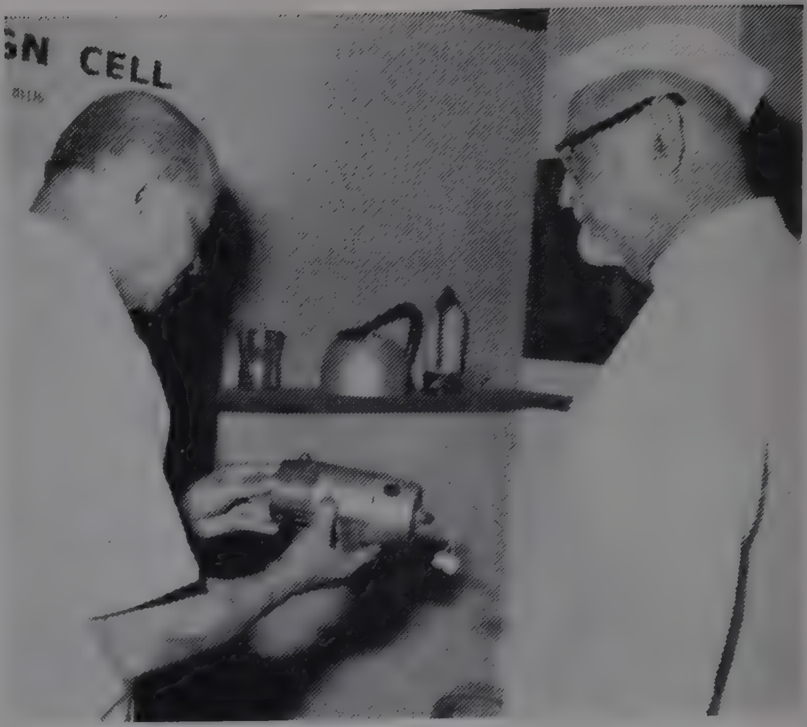
*Every product requires a product design. Picture shows an assortment of electrical and electronic gadgets made in the small scale sector.*

### Setting-up of Design Institutes

The design expertise with the Industrial Design Cell is concerned with form and appeal designs of the product. The designs thus prepared by them do not have a technical angle. To some extent technical designs are provided by the Small Industries Service Institutes as a part of technical advisory service as discussed earlier. As the small industry began making rapid progress and took to new sophisticated fields there arose the need for more and more of technical designs. Realising this imperative for modernisation of small industry sector and to satisfy its highly precision design needs, the Government of India with the assistance of United Nations Industrial Development Organisation set up two Design Institutes namely, The Central Institute of Tool Designs' Hyderabad and Design Centre for Electrical Measuring Instruments, Bombay which began functioning as registered Societies from 31.3.1970. The former one caters to design needs for tools like dies, jigs, fixtures, guages etc. and the latter one for electrical measuring instruments. These Institutes will generally serve small scale manufacturers in respective lines of production. The main functions of these Institutes as incorporated in their memorandum of associations are as under:

(1) To provide technical know-how and information for improving quality and increase productivity in small industry units.
(2) To carry out research and development for providing indigenous designs and prototypes.
(3) To provide testing laboratory and workshop facilities including manufacture of prototypes.
(4) To provide and arrange training facilities in the design and manufacture of selected products.
(5) To initiate and maintain liaison with the Scientific and Research Institutions and to recommend measures to Standardise Components.
(6) To support and help the Industry to develop and manufacture highly specialised products and components.

Setting up of these institutes constitutes an important landmark in the design service rendered by the Small Scale Industries Development Organisation. The representatives from the concerned industries also partake in the functioning of these Institutes. These Institutes are the fore-runners of many more to come in other developing fields of small industry.



*Dr. Zakir Hussain, the late President of India keenly observing a product design during his visit to SISI, New Delhi.*

# OPEN HOUSE DISCUSSIONS AND SEMINARS

### Background

THE need for "Open House Discussion" was felt on account of the special circumstances in which small scale industries in our country are placed vis-a-vis their large counter-parts. Nature of things being what it is, large industries usually enjoy economies of scale, that are not available to the small scale industries. Besides, large scale industries have also necessary resources, to employ professional managers, engineers, analysts, chemists, etc. specialising in different aspects and disciplines of industrial environments. Small scale units on the other hand neither have resources nor the wherewithal to obtain expertise and this stands as a major hurdle in their systematic growth and development. Furthermore, small scale operations, more often than not, inhibit economic deployment of expertise.

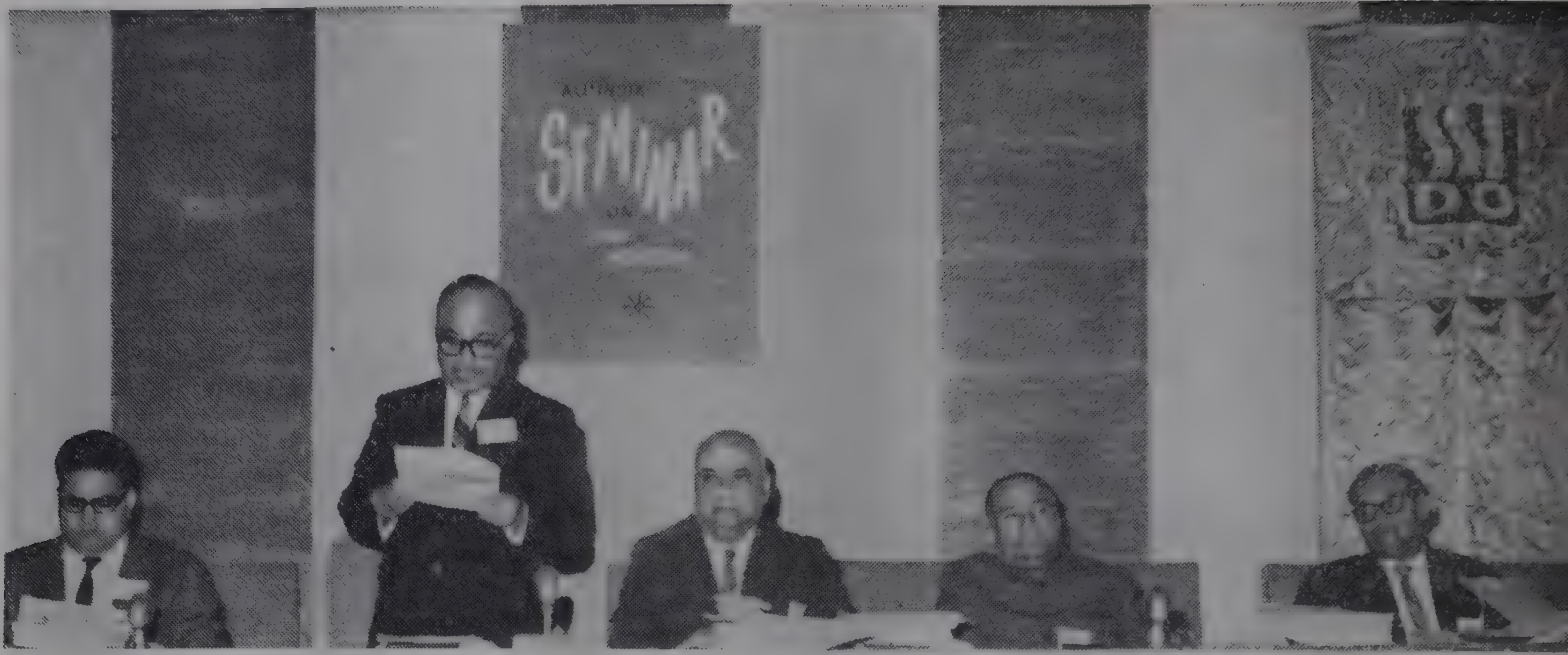
With a view to implementing and improving the technical and competitive status of small factories and to enable them to keep in touch with the latest development in technology, the country-wide industrial extension services were organised by the Government of India as a part of developmental programme of small scale industries. These services are rendered by Small Scale Industries Development Organisation through a net-work of 16 Small Industries Service Institutes and 55 Extension Centres located all over the country.

It was in 1965 that a medium known as "Open House Discussions" was developed and integrated in the Industrial Extension Service under the aegies of Small Scale Industries Development Organisation. This apparatus was conceived to highlight the developmental needs of various industries, to pose pertinent problems faced by specific group of small scale units and evolve suitable solutions thereto. Eversince then, "Open House Discussions" on important industries such as Chemical, Electrical, Mechanical, Leather, Plastics, etc. and also on Industrial Economics and Management problems have been organised and in fact these discussions have now become a regular feature of Industrial Extension Services rendered by the Small Industries Service Institutes.

### Methodology

"Open House Discussions" were conceived to provide forum for exchange of information between the technical officers of Small Scale Industries Development Organisation and other experts in the field drawn from various National Laboratories, Universities and Research Institutes on the one hand and Small Industrialists connected with the industry under discussion on the other. Steps taken to organise these discussions are set out below in chronological order:—

(i) Technical Officers of Small Scale Industries Development Organisation engaged in rendering extension services to small scale industries select an industry for "Open House Discussion" taking into view its importance in the area of their operations, problems faced by the industry, need for dissemination of knowledge and information for solving these problems etc.



*All-India Food Seminar held at Vigyan Bhawan, New Delhi. Picture shows Shri K. Balachandran, Additional Secretary, Ministry of ID & IT addressing the audience.*

(ii) Having selected an industry for "Open House Discussion" on the basis of their field experience and in view of the considerations mentioned in the para above, Extension Officers of the Institutes spell out in concrete terms the problems proposed to be thrashed out in the course of "Discussions".

(iii) At this stage exploratory discussions take place for fixing a time, venue and other details of the programme with the local small industry association of small scale units, State Directorate of Industries and the experts apt in the field of discussion available with various national laboratories and industries. On the basis of these exploratory dialogues, programme for "Open House Discussion" is finalised so as to have the maximum participation.

(iv) Some of the experts in the field are then requested to prepare papers on problems for initiating discussions on the Open House.

(v) Now as all is set for holding an "Open House Discussion", Small Industries Experts and various authorities concerned with the aspects of small industry development proposed to be discussed are invited for participation.

(vi) At these discussions, free and frank discussion is encouraged on the problems posed and useful information disseminated for solving the same.

(vii) Soon after an Open House Discussion is over, a small brochure is prepared by the officers of SSIDO bringing out the salient features and conclusions of the discussion for circulation among all the participants and concerned small industrialists. Follow up action, where needed, is also taken by the Extension Officers with the concerned authorities. Besides, visits of the small industrialists to factories, where certain technical problems of interest have been earlier resolved are also arranged for practical demonstrations.

**Objectives**

The main objective of the "Open House Discussion" is to serve as a means for dissemination of the technical know-how of the experts to the small scale industrialists. "Open House Discussions" are particularly needed in the context of Indian Small Industry scene where the product mix is rapidly changing and technological changes are also fast taking place. Besides, these discussions provide an opportunity to the experts and small industrialists to share their experiences of having solved certain technical problems successfully with their new counter-parts in the area, who are facing similar problems.

In a vast country like ours, where certain areas are ahead of others in respect of small industry development, these discussions have another important role to play. Namely, sometime a technical aspect that might be a common knowledge among the experts or even small industries in one area, may have escaped the notice of small scale units in a newly developing area. Through these discussions such gaps in knowledge are abridged more speedily and expeditiously. In fact, these discussions have proved very useful in abridging the gap between the developed and less-developed areas in respect of technical know-how for solving the operational problems.

Furthermore, these Discussions also provide an opportunity to formulate technical problems for reference to the National Research Laboratories for their possible solution based on indigenous expertise and technical know-how and also an opportunity to disseminate the results of the research attained at these national research institutes.

"Open House Discussions" have proved very helpful for the small industrislists, who are unable to afford to employ professional managers, engineers, and management experts and at the same time these "Discussions" have facilitated fuller use of the scarce technical expertise available in the country.

TABLE

| State | 1965-66 | 1966-67 | 1967-68 | 1968-69 | Total |
|---|---|---|---|---|---|
| Maharashtra | — | 10 | 5 | 2 | 17 |
| West Bengal | — | — | 4 | 8 | 12 |
| Tamil Nadu | — | — | 3 | — | 3 |
| New Delhi | — | 2 | 1 | 1 | 4 |
| Gujarat | — | 2 | 1 | 1 | 4 |
| Mysore | — | 2 | 2 | — | 4 |
| Andhra Pradesh | 4 | 2 | 5 | 4 | 15 |
| Panjab | — | — | 4 | — | 4 |
| Uttar Pradesh | — | 2 | 3 | 7 | 12 |
| Kerala | 1 | 3 | 5 | 5 | 14 |
| Orissa | — | 1 | 1 | 1 | 3 |
| Assam | 1 | — | 2 | — | 3 |
| Madhya Pradesh | 1 | 2 | 5 | — | 8 |
| Rajasthan | — | 1 | 1 | 2 | 4 |
| Goa | — | 1 | 2 | — | 3 |
| Bihar | 1 | 3 | 5 | 3 | 12 |
| Jammu & Kashmir | 1 | — | — | 1 | 2 |
|  | 9 | 31 | 49 | 35 | 124 |

*Shri T. Swaminathan, Secretary, Ministry of ID & IT keenly observing the demonstration of postal franking machine produced by a small scale unit displayed at an exhibition at Bhubaneswar, Orissa.*

**Open House Discussions Conducted**

The Table on left indicates state-wise "Open House Discussions" conducted since 1965-66.

A wide gamut of subjects listed in the Annexure were covered in the various "Open House Discussions" conducted by the SSIDO. However, a few instances may be briefly detailed here in order to bring home the exact nature of these 'Discussions'. For instance in an 'Open House Discussion' on Printing Industry in Andhra Pradesh, problems relating to modernisation of printing industry were discussed threadbare and a pragmatic approach to this problem was evolved by taking into account special situation obtaining in that area. Besides, more specific problems relating to quality of paper, ink, rubber blankets, indigenous printing machinery and other consumable stores required by the printing industry were also discussed in so far as the quality performance of this industry would depend on the quality of its material inputs. In this way, the need for development of certain Auxiliary industries was also highlighted. Besides, different techniques of colour mixing, repair and mainte-

SEMINAR & OPEN HOUSE DISCU
ON
UTILISATION OF FOREST RESOURCES IN GU
SSIDO
SMALL INDUSTRIES SERVICE INSTITUTE
GOVT. OF INDIA
AHMEDABAD

*Shri D.N. Dey, Director, SISI, Ahmedabad speaking at the Seminar on the Utilisation of Forest Resources of Gujarat.*

nance practices to enhance the life of printing machine etc. were also discussed. The need and pattern of horizontal integration between different processes involved in quality printing was also discussed, wherein everyone would be specialising only in one aspect of the printing activity. For instance, while certain small scale units could specialise in block making, some could do so in plate making and others in positive making, etc. It was appreciated that the printing presses trying to have all the departments under one roof would find sooner or later difficult to maintain and run all sections efficiently.

An Open House Discussion was organised on the techniques of case hardening by the Small Industries Service Institute, Punjab. In the course of these discussions, it was emphasised that a proper heat-treatment requires careful analysis of the properties in the composition of Metal material, stress and strain to which the heat treated component is likely to be subjected, the functional aspect of the item and its ultimate use, etc.

The House dealt in depth with one aspect of heat-treatment i.e. case hardening. Complete reports on case hardening, pack carburising, direct quenching method, single quenching method, double quenching method, tempering of case hardened steels, carburising temperature, carburising period, packing method, precautions, selective carburisation, carburising compound and packing method were presented during the course of discussion.

*Front view of the pavilion set up by the SISI, Indore during the Seminar & Exhibition recently organised at Jabalpur.*

In another Open House Discussion organised by SISI, Kerala discussion in depth relating to techniques of 'throw away tips', grinding of carbide tip tools, surface hardening, carbide impregnation by electric spark method, etc. took place and the expert participants exchanged their experiences with none-too-experienced small industrialists.

It would follow from above as well as from the Annexure wherein subjects covered in Open House Discussions have been listed, that the emphasis in these deliberations is primarily on studying the specific technical problems in depth and evolve solutions based on the experience of others for the development of small scale units.

In short, these discussions constitute an important forum where experts and small industrialists shed away their inhibition in sharing their know-how and experiences. In fact, it is the tinge of professional atmosphere imparted to these discussions which is conducive to unfolding rather than withholding of knowledge that contributes to the success of the "Open House Discussions".

**Precautions for Conducting Open House Discussions**

Having explained the technique of 'Open House Discussions' and its efficacy in helping the process of small industry development, we may now briefly narrate some of the important precautions that need be kept in view in order that "Open House Discussions" prove really successful and effective. Firstly, it is important that experts apt in the subject of discussion are selected and invited. Further, in order to ensure their participation it is necessary to provide certain mercenary or other incentives to them. Secondly, the vital importance of selecting the suitable expert to preside over the "Open House Discussions" can hardly be over-emphasised. It is inevitable that the expert chairman should combine in him deep technical knowledge of the problems and the skill to preside over the discussion so that discussions are not allowed to fritter away on subjects of less relevance. Thirdly, the follow up action on the various suggestions and recommendations emanating from the discussions should be taken so that the participants at the discussions have the sense of fulfilment.

*Almost all the Institutes have permanent Exhibition of Small Industry Products—a view of the permanent Exhibition at SISI, Bangalore.*

## List of Open House Discussions held by Small Industries Service Institutes in Various States during 1965-66 to 1968-69

**1965-66**

1. Ceramics Industry in Kerala.
2. Tooling for Press Tools.
3. Discussion on Leather Goods and Footwear.
4. Scope in Rajasthan for Leather Footwear and Tanning.
5. Packaging and Packing for Export Marketing
6. Development of Chemical Industries in small scale sector at Agra.

**1966-67**

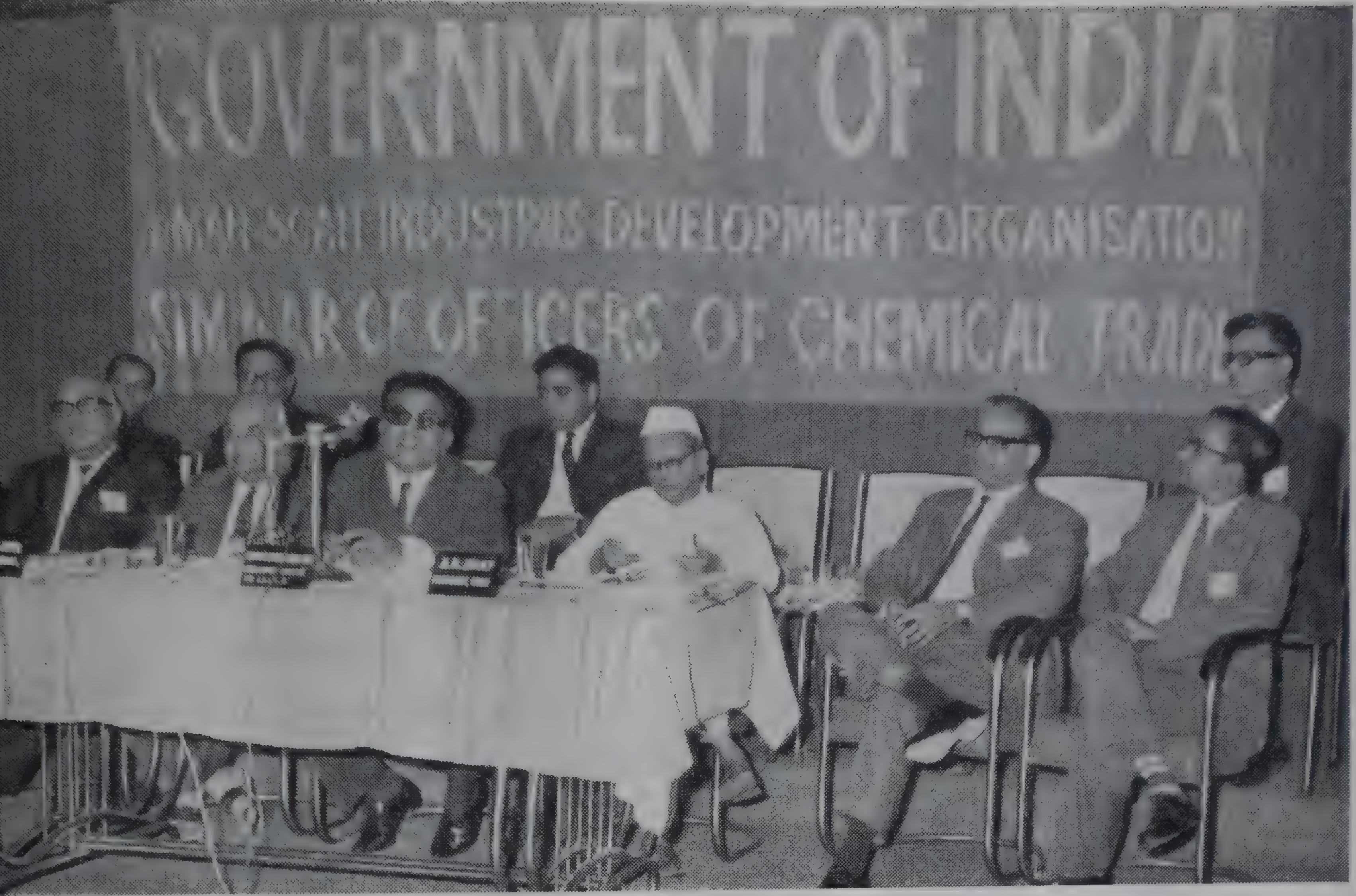
7. Cost reduction in small industries.
8. Opportunities for new industries on indigenous resources.
9. Discussion on Welding Practice.
10. Brick Industry.
11. Group Discussion on Labour Laws.

*Exhibition is a medium used to motivate entrepreneurs also. Shri K.L. Nanjappa, Development Commissioner (SSI) explaining some special features of the exhibits to Shri Dinesh Singh, Union Minister for ID & IT and to Shri R.N. Singh Deo, Chief Minister, Orissa in the SISI Pavilion at the Industrial Exhibition, Bhubaneswar.*

12. Quality Control.
13. Quality Control and Impact on Cost Reduction.
14. Tooling for Press Tools—Forging and Deep Drawing.
15. Different Discussions held in S.I.S.I., New Delhi.
16. Cupola and its operations.
17. Techno-Economic Symposiums on Oil Milling Industry.
18. Open House Technical Discussion on Ceramic Industry.
19. Open House Discussion on 'Method Study and its application to Small Scale Industry'.
20. Open House Meeting on Wood-based Industries.
21. Open House Discussion on Cable Industry.
22. Open House Discussion on Export of Sports Goods.
23. Method study and its application at Nagpur.
24. Method study and its application at Kolhapur.
25. Open House Discussion on Wood-based Industries.
26. Planning and Production Control.
27. Open House Discussion on Paints & Varnishes.
28. Open House Disucussion on Press work.

*The small car is always a temptation—Shri V.P. Naik, Chief Minister of Maharashtra evinces keen interest in the toy car on display at SISI, Bombay.* ↑

*Photo shows seminars organised by SISI, Ahmedabad and the Lions Club in which Shri Hitendra Desai, Chief Minister of Gujarat is delivering inaugural address.* ↓


GOVERNMENT OF INDIA
SMALL SCALE INDUSTRIES DEVELOPMENT ORGANISATION
SEMINAR OF OFFICERS OF CHEMICAL TRADE

*Picture shows Open House Discussion on Footwear Design organised by the Central Footwear Training Centre at Madras.* ↓

*Picture shows Shri Bhanu Prakash Singh, former Dy. Minister for ID, IT & CA addressing the seminar of officers of chemical trade of the SSIDO.* ↑

29. Cupola and its operation.
30. Method Study and its application establishing a small scale industry.
31. Small Scale Dye Stuff Industry in Bombay.
32. Devaluation and Export drive.
33. Electroplating of Zinc Alloy Casting.
34. Marketing at Bombay.

**1967-68**

35. Open House Discussion on Tooling and Testing Facilities for the Instrument Manufacture.
36. Open House Discussion on Wood-based Industries held at Quilon.
37. Open House Discussion on maintenance of Machine tools and Equipment, etc.
38. Heat-treatment of Steel.
39. Open House Discussion of Surface Coating Industry.
40. Open House Discussion on the Development of Chemical Industries with particular reference to Insecticides and Pesticides Formulations.
41. Open House Discussion on Rubber Plastic Industries.
42. Open House Discussion on Quality of Radios manufactured by small scale industries.
43. Open House Discussion on Personnel Selection and Placement.
44. Open House Discussion on Development of Sheet Metal Surface.
45. Development of Export from the small scale sector in Rajasthan.
46. Casticide Tipped Tools.
47. Manufacture of Writing Ink.
48. Selection and Maintenance of Electric Motors.
49. Electro Forming with Nickle.
50. Present position and future scope of Food Industries.
51. Chemicals based on products available from Durgapur Projects.
52. Work Simplification.
53. Work Reduction.
54. Cost Reduction through Material Management.
55. Workshop Maintenance.
56. Role of Meteorological Light Engineering Industries.
57. Cost Reduction in Materials Management.
58. Break even Point.

*Front view of the Exhibition organised by SISI, Bombay at Nagpur.*

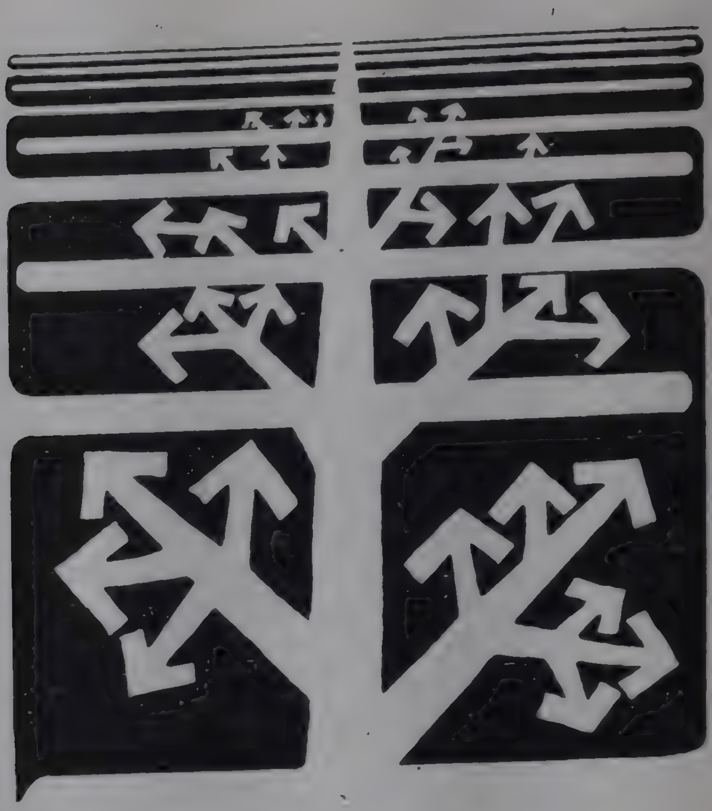
59. Plastic Rubber Technology.
60. Modernisation of Machine Tool Industry.
61. Open House Discussion on Plastics.
62. Open House Discussion on Development of Chemical Industries.
63. Scientific Method of Soap manufacturing and Standardisation of the Quality of Soap.
64. High Duty Casting.
65. Cost Reduction in Foundry.
66. High Duty Castings.
67. Current Industrial relations and Modernisation of small scale industries.
68. Rubber and Plastic Industries.
69. Modern Techniques of Case Carburising of Low Carbon.
70. Cemented Footwear.
71. Automobile Workshop in Goa.
72. Reduction of Quality Leather and Footwear.
73. Scope, Possibilities and Problems of Pharmaceuticals Industries.
74. Export of Indian Engineering Goods to West Germany.
75. Cost Reduction in small industries.
76. How to refer Graded Machine Tools.
77. Cost Reduction in Foundry.
78. Marketing.
79. Modernization of Woollen Hosiery Industry.
80. Roofing Tile Industry.
81. Ceramic Industry in Goa.
82. Substitution of Molasses and Sand Moulding.
83. Waste Reduction in an Industry.
84. Quality Control.
85. How to Inspect labour productivity in India.

86. Graphite Crucible Industry.
87. Human Relations.
88. Current Industrial Recession and Modernisation of Industry.

**1968-69**

89. Drugs and Pharmaceutical Industries.
90. Wood based Industries.
91. Role of Tooling in the Light Engineering Industries pertaining to Turning Operations.
92. Scope of starting New Industries in Jammu.
93. How to improve Labour Productivity in India.
94. Proceedings of Seminar on Glass Bangles.
95. Financial Problem and Liberalised Financial Assistance to small scale units.
96. Industrial Relations.
97. Material Handling and Plant Layout.
98. Engineering Inspection and Quality Control.
99. Demonstration-cum-Training in Silk Screen Printing.
100. Plastic Conversion Industry.
101. Development of Small Scale Footwear, Leather Goods and Tanning Industries.
102. Die Casting Industry.
103. Spoilage of Beverages and their Remedies.
104. Cataloguing and exhibition.
105. Symposium on Problem of Financing small scale industries by Banks.
106. Roofing Tile Industry.
107. Glass Blowing Industry.
108. Pharmaceutical Industry.
109. Financial Assistance to small scale industries.
110. Credit Facilities for small scale industries.
111. Open House Discussion on Radiant Heat.
112. Anodising Industry.
113. Printing Industry.
114. Financial Problems—Liberalised Financial Assistance to small scale industries.
115. Standardisation and Interchangeability.
116. Installation, Maintenance and Renovation of Machinery.
117. Copper Alloy Foundry.
118. Forging Technique.
119. Short Term Bank Credit to small scale industries.
120. Financial Assistance to small scale industries.

# STATISTICS FOR AN EFFECTIVE PROGRAMME



WHILE planning the development of the industrial sector in a country which is still in the developing stage, one is usually confronted with a number of problems. To cite only a few, one has to decide which are the manufacturing lines to be taken up for promotion from time to time keeping in view the needs and which lines are to be discouraged for further expansion, the saturation level having already been reached. Where, in the matter of development of industries, there have been regional imbalances within the country, one has to study the potential of such underdeveloped areas from the point of view of availability of human and material resources, marketing channels, etc. and to select industries which could be promoted in such areas. One should have a clear grasp of the import requirements of (a) raw materials, components and spares which are not available to the required extent from indigenous sources and (b) finished products (mostly components, spare parts etc.) to sustain indigenous production of certain items in order to be able to draw up the foreign exchange budget as realistically as possible. Indigenous production of materials which are being imported should be encouraged as far as possible, in order to conserve foreign exchange. Also to boost up the foreign exchange resources of the country, one has to identify the fields of production where exports are possible and for which foreign markets are to be explored.

### Need for Statistical Data

These are some of the problems which the planners are usually confronted with and for which they can find some satisfactory solutions only if statistical data on some important aspects such as capacity and production—investment in different industries, import requirements, export prospects, etc. are available. If capacity available is far less than the demand for a particular product, additional capacity has to be planned in time. If production is far less than capacity due to reasons such as raw materials shortage, indigenous production of raw materials should be boosted up and imports have also to be planned in time. If capacity is in excess of demand in the country, exports have to be arranged in respect of such products. Problems such as those enumerated above multiply in number and solutions become more difficult to find when we have to consider the contribution of the moderately small and very small industrial units also, particularly when special emphasis is laid on the development of this sector side by side with the large-sized units. This is exactly what a country like India has been facing for some time in the past in view of increasing emphasis being laid on development of small industries which have vast employment potential and therefore deserve encouragement.

### Small Industries Sector in India

As it is defined today in India, for administrative purposes, the small industries sector comprises of those manufacturing units in which investment in plant and machinery alone does not exceed Rs. 0.75 million irrespective of employment. Naturally, it consists of a very large number of units mostly of very small size

*Many questions are answered more easily and effectively by uptodate statistics. Shri K.L. Nanjappa, Development Commissioner(SSI) answering the queries of the entrepreneurs during the conference of Rural Industries Project Personnel recently held in New Delhi.*

with one or two persons working either in households or in very small workshops and engaged in a wide variety of industries. Units employing large number of workers which are fewer in number also come within the scope of the definition so long as they come within the investment ceiling stipulated but their contribution to production is comparatively significant. A good number of the very small units (and a few larger ones also) are engaged in traditional handicrafts and cottage industries which are taken up on a household basis. Several others which are of the workshop type are engaged in lines of production which are usually found in the large scale sector also. For administrative convenience, the development of traditional industries (including the very small units) and the others are looked after by separate organizations in the country whereas the modern workshop type small scale industries come under the purview of Small Scale Industries Development Organization.

### Special Problems of the Sector

When special emphasis is laid on the planned development of the small industries sector, a variety of promotional assistance programmes have to be drawn up and implemented. Statistical data at least on what is being produced by numerous units in the sector, where and to what extent, etc., are required to formulate suitable programmes of assistance. Pre-

*All are not yet counted out of an estimated .35 million small units in the country. As on 31.3.1970 only 1,78,000 are registered with the Directorate of Industries.*

ferential treatment in respect of credit and raw materials is what the sector needs quite often. The small industrialist has to depend on institutional sources for credit since his own resources are limited and he cannot afford to pay the exorbitant interest charged by private money-lenders. Institutional credit sources, however, consider financing small industry risky and naturally the State has to formulate programmes for providing the required finance. Knowledge of the present and future credit requirements of small scale units thus becomes very essential. Whenever some raw material is in short supply, it is the small industry sector which is adversely affected and measures taken for an equitable distribution of available stocks of indigenous or imported materials will not be successful unless one has knowledge of the exact requirements of the large scale and small scale sectors. Similarly, considerable care has to be taken in deciding to reserve some product lines exclusively for the small scale industries only after taking into account data about the present capacity and production in the sector and any decision not based on such data may adversely affect the small scale units and the consumers eventually.

There is thus an imperative need for regular flow of statistical information on different aspects of the

*These tiny products on display are made by many small scale units which account for considerable investment, employment and output in the aggregate—that is statistics.*

small scale sector in order to facilitate proper planning of development programmes. And, while the programmes are under implementation, there is need for data again to study whether the required results are being achieved.

The task of collecting statistics would necessarily involve considerable expenditure by way of setting up a Central Agency having regional and sub-regional offices with adequate staff to collect systematically essential data from a large number of small scale units spread all over the country. Considering the significant contribution of the Small Scale Industries Sector to the national economy in terms of employment generated and value of industrial output, the need for collecting up-to-date and essential statistics would be apparent. Further, if the basic socio-economic objectives of developing small scale industries are to be realised, it is hardly necessary to justify the imperative need for accurate statistics about all small scale units in the country to plan for their development on sound lines and hence any reasonable expenditure for the collection of such statistics at regular intervals should be considered worthwhile, if not essential. In the case of large scale sector where a large number of products are manufactured under one roof, statistics of production can be collected easily from the few such large units which are countable. Whereas in the case of very small workshop type units spread all over the country each one generally specialising in one product/component or sometimes even in one process, the coverage of the entire sector for obtaining detailed itemwise information on production becomes virtually very difficult. Thus, in spite of the urgent need for information, it has been possible so far to collect particulars of this sector only once in a decade as part of the decennial population census programme and this too has given only a rough idea of the magnitude

*"An open invitation to become a small industrialist" Industrial estates like the one above at Sivaganga in Tamil Nadu, are set up in rural areas so as to help local entrepreneurs to set up small industries in the ideal setting.*

of the sector—industry-wise and the employment provided.

**Present State of Availability of Data**

Prouction data are available in India on monthly basis only from the large scale sector units (i.e. those having investment in plant and machinery exceeding Rs. 0.75 million) which number about 3,000. They are covered also on an annual basis in the Annual Survey of Industries conducted by the Department of Statistics. Units in the small industries sector which are registered under the Indian Factories Act i.e. those employing 10 or more workers when working with power and 20 or more workers when working without power are also covered in the Annual Survey of Industries. But till the year 1966, units in this sector employing 10 to 49 workers with power and 20 to 99 workers without power were being covered only on a sample basis. Detailed information about the contribution of small scale factories at item level were not, therefore, available through this survey since such sample coverage made it possible to have only overall estimates at the industry group level. As from the survey for the year 1966, it was decided to cover this sector on a census basis according to a phased programme taking a few industries at a time. Factories in most of the engineering industries were covered by complete enumeration in 1966 and 1967 while those in chemical industries were taken up in the survey for 1968. The design of the survey has further been changed recently as to have a census of the factory sector spread over a period of three years collecting data for each industry from one-third of the sector every year (the first year's selection of units being on a random basis) and making necessary adjustments for the rate of growth from year to year. The survey for 1969 has been taken up as per the new design and if efforts which are now being made to reduce the enormous time-lag between tabulation and publication of results also succeed, adequate product-wise data about small scale units, at least those registered under the Factories Act, would be available to facilitate planning the development of the sector on a more realistic basis.

**Survey of the Smaller Units**

It is commonly known that the contribution to industrial output made by the units which do not come under the category of registered factory type units, is quite small as compared to that of either the registered small scale factories or the still larger units. But keeping in view the fact that this sector figures very much in the development programme in view of its employment potential, it would be worth assessing its contribution in all details at least once every three years, if not every year. Even here while conducting a survey, it would be desirable to treat the moderate sized units in the sub-sector on a different footing since, in line with the pattern observed in the factory sector, the contribution of such units will be significant as compared to that of the innumerable household units and tiny workshops. The question arises where exactly to draw the dividing line and whether it should be on the basis of investment or employment. The position revealed by information collected in 1961 population census is that over 95% of the units in the non-factory sector are those employing less than 5 workers each and hence in the absence of data on investment pattern, it appears reasonable to fix the lower limit on the basis of employment of five workers. Whether sampling could be adopted for covering the sector employing 5 or more workers or the survey would have to be conducted on a census basis for several industries, if not for all, will depend upon the regionwise distribution pattern of such units among different industries particularly since information on production will be required at the product level. In view of the fact that many new units come up in this sector and the mortality rate is also somewhat high, it would be necessary before planning a census survey to prepare a complete list of units through door-to-door contact. Such a list has been prepared recently in the country and a survey is now in progress. This sector may again be covered after another three or four years. Household units and tiny workshops would best be covered on area sampling basis—identifying areas of concentration of such units, selecting some areas at random, listing the units in the selected areas and contacting again a few of the units at random for collection of information. This field is proposed to be studied in the country along with the usual rounds of the National Sample Survey which covers the household sector.

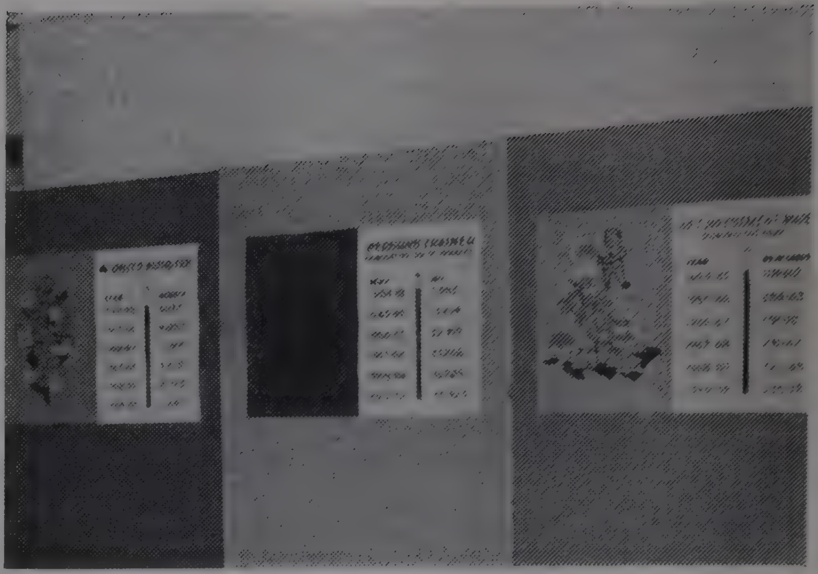
*91% of the registered factories are in the small scale sector in India—one knows about it only through statistics. Shri Dinesh Singh, Minister for ID& IT, Government of India wants to know more of the progress and Shri K.L.Nanjappa, DC(SSI) readily answers him with statistics. SSIDO has a full-fledged wing for statistics.*

*Even to plan the manufacture of a new product one has got to know the position—the solution is through statistics. In the permanent exhibition at Jaipur an interested entrepreneur seeks information.*

### Problems in Collection of Data from Smaller Units

One difficulty that will be faced in any attempt to collect statistics from the smaller units is that they may not be keeping proper accounts from which to tap reliable data. Even in cases where they do, the units may be reluctant to part with the information fearing that the same may not be used for purposes other than studies of academic nature. A lot of persuasion may be necessary in the initial stages to ensure a reasonably good response from these units taking pains to convince them that the assistance programmes of the Government can be properly formulated only on the basis of reliable statistical information collected from them and as such it will be in their own interest to furnish reasonably accurate information to the data collecting authorities. Mass communication media such as radio and newspapers may also be used with advantage for the purpose of allaying the unjustified fears of the respondents.

In cases, where no accounts are maintained and data have to be furnished by the owner of the unit from memory, the reference period has to be quite short in order to get over what is generally termed as the "recall lapse". When the survey has to be spread over a period of one year and data have to be collected from the selected units for different short reference periods, the units to be contacted may have to be randomised over time. While these and other techniques may be introduced to get over some of the problems faced in the endeavour to collect reasonably accurate information from very small units from the long term point of view it would be desirable to have a concerted drive to educate the small industrialists, at least those employing 5 or more workers in the non-factory sector in the matter of keeing proper accounts and make them data-minded.



*Figures often speak better: picture shows the progress of the Rural Industries Programme in India brought out in charts during a recent exhibition.*

# INDUSTRIAL ESTATES PROGRAMME IN INDIA

## Historical Background

INDUSTRIAL Estates Programme in India is perhaps the biggest launched by any developing country. Its history can be traced back to the year 1947, when the then Bombay State appointed a Special Officer to recommend suitable places in the State where Industrial Estates could be established. Though a number of places were recommended, the scheme did not materialise for want of finance. However, the idea lingered on and in 1952, the Bombay State Government granted a loan to Poona Municipal Corporation for developing an Industrial Estate at Hadapsar. The lead given by Bombay State was followed by the then Saurashtra State (now in Gujarat), when in 1955 it was decided to set up an Industrial Estate near Bhakti Nagar Railway Station in Rajkot. The main objective of setting up the Estate in Rajkot was to consolidate the growth of small scale industries that had come to be established during the Second World War. These were, however, isolated attempts.

Of the 10 Estates sanctioned towards the end of the First Five Year Plan, five were located in Kerala (Palghat, Trivandrum, Kottayam, Quilon and Trichur), two each in Madras (Guindy and Virudhunagar) and Uttar Pradesh (Kanpur and Agra) and the remaining one in West Bengal (Kalyani). At the same time the National Small Industries Corporation was to undertake construction of two industrial estates—one at Okhla (Delhi) and the other at Naini (Allahabad).

## Second and Third Five Year Plans

Though the Industrial Estates Programme was started during the First Five Year Plan, yet the real progress was made during the Second and Third Five Year Plans. The remarkable development of small scale industries during the Second Plan created a big demand all over the country for factory accommodation. The usefulness of industrial estates as a tool of rapid development of small scale industries was therefore recognised and sums amounting to Rs. 109 million and 225 million were spent on this programme during I, II and III Plan periods respectively. During the Third Plan the State Governments were also encouraged to acquire land and provide developed sites for common facility centres and leave the construction of buildings to entrepreneurs. A provision of about Rs. 190 million has been proposed for Industrial Estates in the Fourth Five Year Plan, which will be mainly used for completion and provision of facilities in Industrial Estates that have already been sponsored.

Out of 505 industrial estates that have been sponsored so far all over the county during the last 14 years, 404 have been constructed and 303 have actually started functioning with 5413 factories. The total investment made in construction of these industrial estates during the last 14 years or so amounts to Rs. 420 million.

*A view of the C-type shed in the Guindy Industrial Estate, Madras. Factory sheds in industrial estates are of various types, built according to the requirements of different types of industries in each area.*

**Objectives of the Programme**

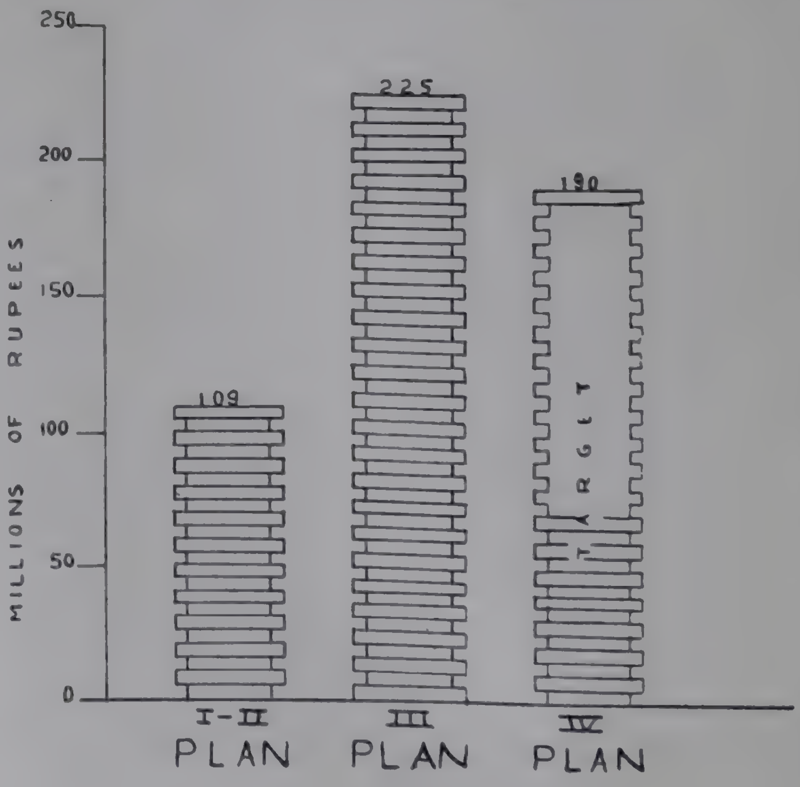
The principal objectives of the programme varying to some degree with time and place have been:

- (i) to encourage the growth of small scale industries;
- (ii) to shift small scale industries from congested towns and cities with a view to increasing their productivity;
- (iii) to achieve decentralised industrial development in small towns and large villages; and
- (iv) to encourage the growth of ancillary industries in townships, near major industrial undertakings both in public and private sectors.

The aforesaid objectives were proposed to be achieved through the instrument of industrial estates on account of their promotional features:

- (i) To provide well-planned accommodation to small scale industries at suitable sites, with facilities of water, electricity, transport, banks, canteens, watch and ward, good approach roads, etc.
- (ii) To bring a number of units together and thereby facilitate the establishment of Common Service Centres, introduction of modern techniques, collective purchase of raw materials and sale of finished goods, joint publicity etc. In brief, to enable the small enterprises to avail of external economies, thereby counteracting to some extent the disadvantages from which they suffer.
- (iii) To enable the member enterprises to avail of the goods and services of each other so as to make them complementary and interdependent on each other.

Generally the State Governments have been implementing the scheme within the broad framework of objectives set-forth above. The emphasis on different objectives, however, has varied from State to State, depending upon a number of factors, peculiar to their economic situation and developmental needs. For instance, in implementing the programme, the Maharashtra State laid greater stress on the need for diverting industries from



*There is great demand for industrial sheds in the Industrial Estate at Hubli. Picture shows sheds constructed for entrepreneurs who had paid one full year's rent in advance.*

industrially congested areas like Bombay and Poona. One of the principal objectives which the programme for industrial estates was expected to achieve in Kerala and Andhra Pradesh was, inter-alia, creation of more employment opportunities through the development of small scale industries. On the other hand, the programme in Punjab aimed at providing accommodation to the small scale units working in the cities/towns and bringing them together at one place so as to enable them to take advantage of agglomeration and external economics.

**Sponsoring Agencies**

Direct Government sponsorship was inevitable in the beginning because Industrial Estates Programme was conceived as one of the measures in the wider promotional effort organised by the Government for industrialisation of the country. Further, as no private organisations were available, the State Governments assumed direct responsibility for almost all the operations ranging from acquisition of land to day to day management of the estates. Some of the State Governments, particularly, Maharashtra and Gujarat have also been encouraging cooperative societies and associations of entrepreneurs etc. to sponsor industrial estates and construct the premises. The role of State Governments in this case is confined to the provision of developed sites and the requisite essential facilities like power and water. For the construction of premises, the State Governments stand guarantees for loans to be given by the Cooperative Banks, Scheduled Banks and the Life Insurance Corporation of India.

**Pattern of Financial Assistance**

The Government of India has been financing the implementation of the scheme both by grants and long term loans. The pattern of assistance is generally as follows:-

The entire cost of the estates is given to State Governments as a loan. The cost of building and land on which they stand is given as a loan for a period of 20 years and rest of expenditure that is for layout, roads, power transmission and water supply is given as a loan for a period of 30 years. The loans carry an interest of 4½%. The preliminary cost for preparing the blueprints, estimates, etc. is given by the Central Government as a grant to State Governments.

**Types of Industrial Estates**

Industrial estates can be distinguished on the basis of sponsorship, location, size, functions etc. In the first category we have estates sponsored and set up by Government, private bodies like cooperatives and joint stock companies. Similarly we have urban, semi-urban and rural estates defined according to places where they are located.

**Semi-urban and Rural Industrial Estates**

As one of the objectives of the Industrial Estates Programme was to develop industries in rural areas and small towns, many of the estates constructed

*Municipalities also encourage the development of small scale industries. Industrial Estate (Municipal) Bapunagar, Ahmedabad.*

under the Government programme were located in such areas in order to achieve the said objective. Out of the 303 industrial estates functioning at present, 141 are in urban areas, 96 in semi-urban and 66 in rural areas.

*Urban, Semi-Urban and Rural Industrial Estates as were Functioning on* 30-9-1969

| Name of State | Urban | Semi-urban | Rural | Total |
|---|---|---|---|---|
| Andhra Pradesh | 16 | 8 | 7 | 31 |
| Assam | 1 | — | 1 | 2 |
| Bihar | 8 | 1 | — | 9 |
| Delhi | 1 | — | 1 | 2 |
| Gujarat | 10 | 7 | — | 17 |
| Haryana | 6 | — | 4 | 10 |
| Himachal Pradesh | — | 1 | 4 | 5 |
| J & K | 2 | 6 | 8 | 16 |
| Kerala | 1 | 9 | 6 | 16 |
| Maharashtra | 21 | 14 | — | 35 |
| Madhya Pradesh | 12 | 12 | — | 24 |
| Madras | 10 | 13 | 6 | 29 |
| Mysore | 13 | 6 | — | 19 |
| Orissa | 4 | 5 | 1 | 10 |
| Pondicherry | — | 1 | 1 | 2 |
| Punjab | 10 | 3 | 3 | 16 |
| Rajasthan | 8 | 1 | 4 | 13 |
| Tripura | — | — | 2 | 2 |
| Uttar Pradesh | 17 | 8 | 13 | 38 |
| West Bengal | 1 | 1 | 3 | 5 |
| Dadra & Nagar Haveli | — | — | 4 | 4 |
| Goa | — | — | — | — |
| Total | 141 | 96 | 66 | 303 |

**Small and Big Estates**

Estates located in rural areas are usually very small and comprise one or two worksheds. The estate in semi-urban and urban areas are large and the areas covered by them varies from 10 to 100 acres or even more. The table given below gives the number of estates functioning according to size:

*Number of Estates*

| Name of State | Upto 2 acres | 3—10 acres | 11—31 acres | 31 acres and above | Total |
|---|---|---|---|---|---|
| Andhra Pradesh | — | 1 | 13 | 17 | 31 |
| Assam | — | 1 | 1 | — | 2 |
| Bihar | — | 2 | 2 | 5 | 9 |
| Delhi | — | — | — | 2 | 2 |
| Dadra and Nagar Haveli | — | — | — | 1 | 1 |
| Goa | — | — | — | 1 | 1 |
| Gujarat | 1 | 1 | 10 | 5 | 17 |
| Haryana | 1 | 6 | 1 | 2 | 10 |
| Himachal Pradesh | — | 4 | 1 | — | 5 |
| Jammu and Kashmir | — | 12 | 4 | — | 16 |
| Kerala | 1 | 4 | 8 | 3 | 16 |
| Maharashtra | 1 | 3 | 18 | 13 | 35 |
| Madhya Pradesh | — | 5 | 10 | 9 | 24 |
| Mysore | — | 5 | 11 | 3 | 19 |
| Orissa | — | 2 | 6 | 2 | 10 |
| Pondicherry | — | — | 2 | — | 2 |
| Punjab | 1 | 4 | 10 | 1 | 16 |
| Rajasthan | — | — | 9 | 4 | 13 |
| Tamil Nadu | — | 1 | 9 | 19 | 29 |
| Tripura | — | 1 | 1 | — | 2 |
| Uttar Pradesh | — | 12 | 19 | 7 | 38 |
| West Bengal | 1 | 2 | — | 2 | 5 |
| Total | 6 | 66 | 135 | 96 | 303 |

*A view of the Chemical Industries Industrial Estate, Aroor, District Alleppy (Kerala).*

**Cooperative Industrial Estates**

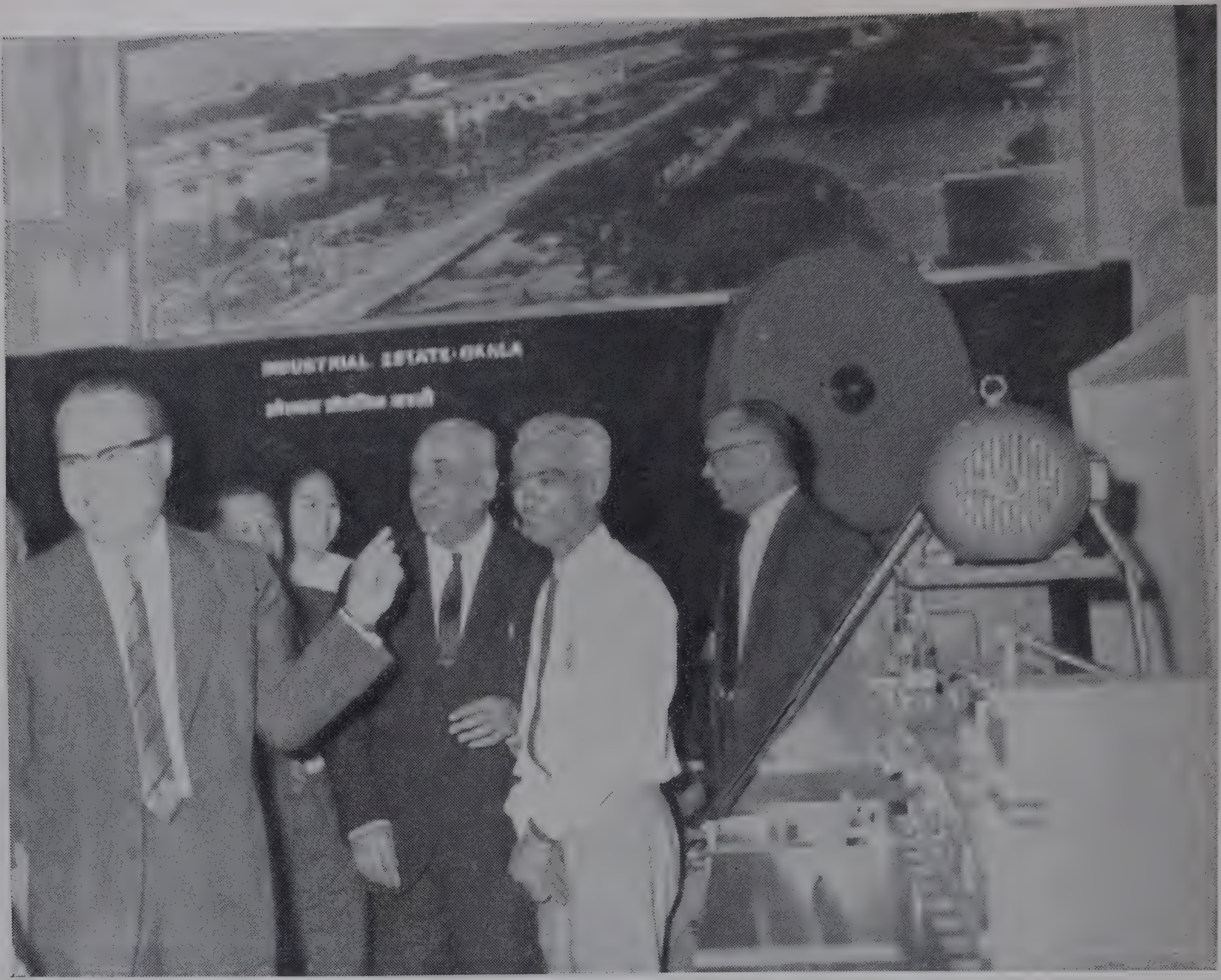
Besides the Industrial Estates set up by the Government, a number of estates have been built by cooperatives and joint stock companies. These estates have been assisted by commercial banks with loans on the guarantee of the State Governments. The Life Insurance Corporation has also been giving loans for this purpose to cooperatives and joint stock companies.

Cooperative Industrial Estates have been set up mainly in the States of Gujarat and Maharashtra. 27 cooperative industrial estates are functioning in Maharashtra and 5 in Gujarat.

**Functional Industrial Estates**

Besides the usual general purpose estates, a number of functional estates wherein different parts and components are manufactured and assembled

*Functional Industrial Estate, Changanacherry—A view of the main entrance.*



*Shri K.L. Nanjappa, Development Commissioner (SSI) with a Japanese delegation visiting the Okhla Industrial Estate, New Delhi.*

according to a coordinated programme have also been set up. Electronics, agricultural implements, leather goods, ceramics and sports goods are some of the items taken up for manufacture in these industrial estates.

### Ancillary Industrial Estates

A very large number of units located in the industrial estates are engaged in ancillary production. About half a dozen estates are in fact exclusively busy in producing ancillary parts and components. Their annual production is estimated at about Rs. 40 million. Ancillary estates are usually located near large scale factories. The large factories give technical guidance and also raw materials to the ancillary units. Such ancillary estates are functioning along-side Hindustan Machine Tools, Bangalore, Heavy Electricals (India) Limited, Bhopal, Heavy Engineering Corporation, Ranchi, Bharat Electronics Limited, Bangalore, Hindustan Steel Plants etc.

### Planning of Industrial Estate

A good deal of pre-planning is called for before deciding on the city/town/village where the industrial estates have to be located. The growth potential of the area both in respect of various resources and demands of manufactured goods has to be studied. Detailed studies have also to be made of the available infrastructure e.g. power, transport, water and other facilities on sound professional lines in order to establish their long term viability.

It may be stated here that detailed feasibility surveys in respect of areas where industrial estates are located, were not conducted in many cases in a systematic manner, although generally economic considerations weighed with the State Governments in deciding the location. Some of these considerations were proximity to marketing and distributing centres and industrial concentrations, availability of entrepreneurs, possibilities of developing ancillary and auxiliary industries etc. etc. There are, however, some instances where the industrial estates were taken to mean a panacea for all economic ills. For example, in their enthusiam to hasten the process of industrialisation the State Governments of Madras and Kerala decided that every district should have at least one industrial estate whereas Mysore State decided that every district should have two estates—one at the headquarters and the second in an underdeveloped area of the district. Similarly the District Boards in Punjab were asked to select two sites for location of two estates in each district. The decisions were taken without ascertaining industrial potential of each district.

### Selection of Site

The selection of the actual site for the location of industrial estate as distinct from an area involves a number of techno-managerial considerations; the site should permit easy drainage and have basic facilities such as water, power, approach roads, means of communication and be at a convenient distance from a marketing centre, and residential quarters for workers. The land selected should not be very costly and sufficient land should be available for possible future expansion. In practice, it is difficult to find such ideal sites, enjoying all the advantages. Some balance has, therefore, to be struck.

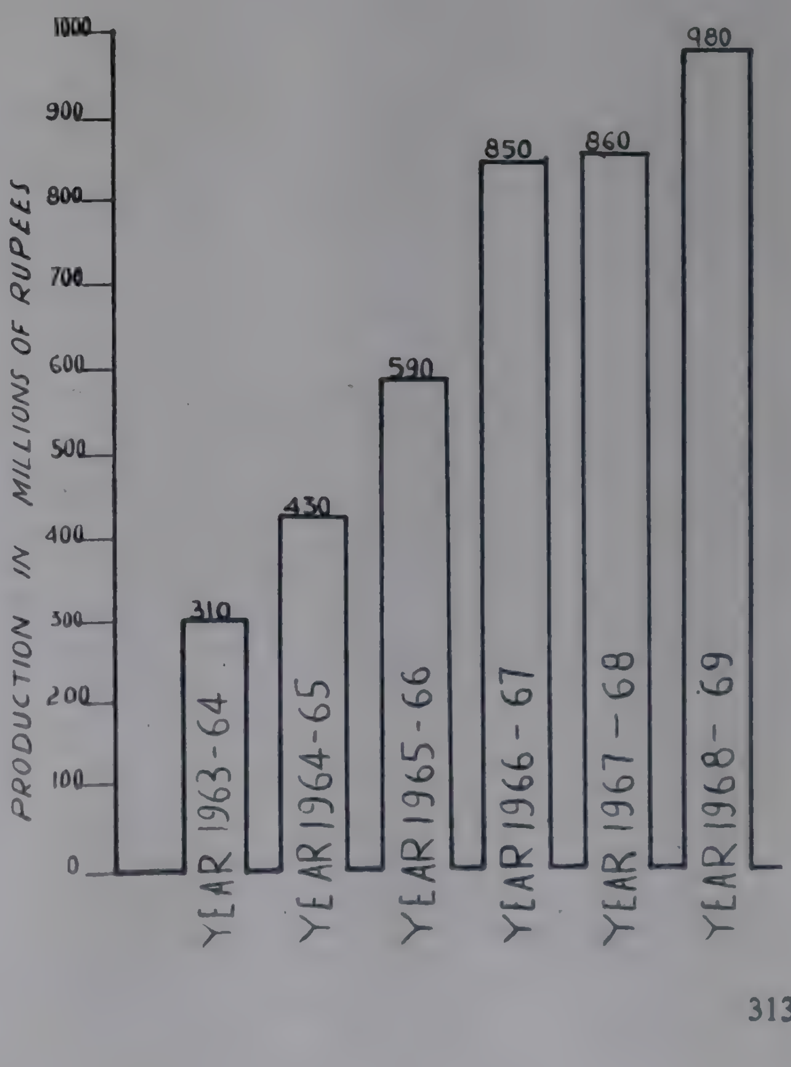
Viewed in this context, most of the industrial estates locted in Andhra Pradesh, Bihar, Delhi, Gujarat, Madras, Madhya Pradesh, Orissa, Punjab, Rajasthan, Uttar Pradesh and West Bengal are generally located at proper sites equipped with necessary economic facilities. There are, of course, a few estates in these States which do not enjoy the essential facilities and steps are now being taken to remove the bottlenecks.

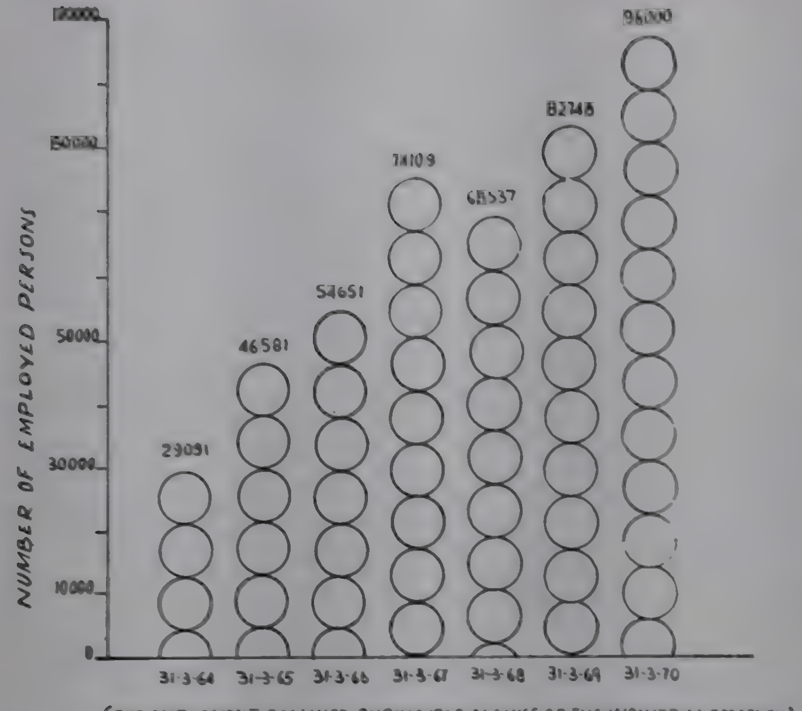
### Pattern of Cost for Different Categories of Estates

There are wide variations from one estate to another of the same category in different States. In case of rural estates, the cost varies from Rs. .147 million in the case of Tral (Anantnag) in Jammu and Kashmir to Rs. .450 million for Badli in Delhi and Rs. .961 million for Kangra in Punjab. The cost of semi-urban estates also shows similar variations.

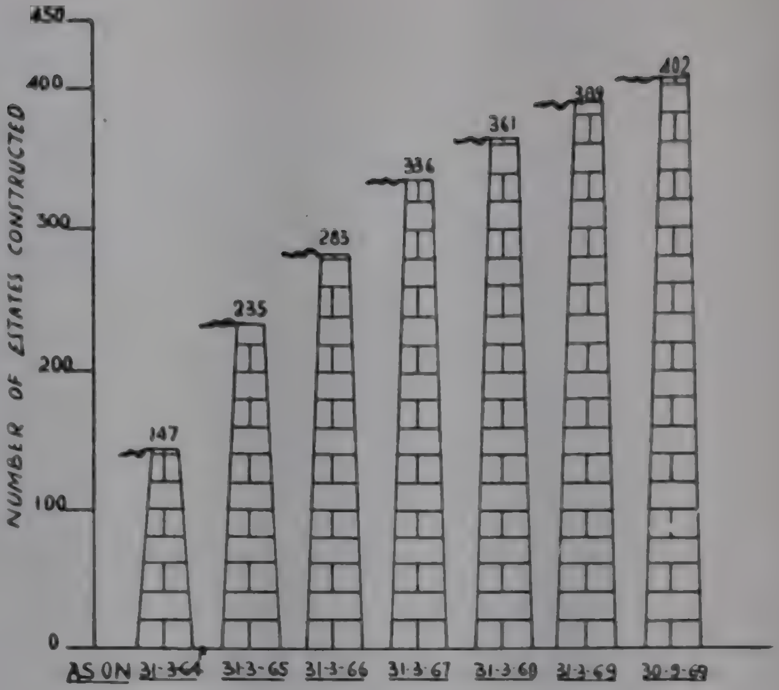
While in the case of Ramanagaram in Mysore State, the cost is as low as Rs. .242 million, it is as high as Rs. 1.301 million and Rs. 1.244 million in the case of Ettumanur and Ollur in Kerala. The variations in costs in the case of urban-estates are still more significant, being as low as Rs. .216 million for Burhanpur in Madhya Pradesh and Rs. .420 million for West Hill in Kerala and as high as Rs. 17.074 million as in the case of Guindy in Madras, Rs. 6.800 million, Rs. 4.360 million and Rs. 4.147 million for Howrah, Okhla and Baroda respectively. The cost of other urban estates has generally varied between Rs. 1 to Rs. 3.5 million.

The total investment made in construction of industrial estates during the last 14 years or so amounts to Rs. 420 million. As stated earlier out of 404 industrial estates, as have been constructed, 303 have actually started functioning with 5413 factories. Goods worth Rs. 980 million are manufactured annually by industrial units in these estates and employment provided is little over 96,000 persons.





(THE EMPLOMENT DECLINED DURING 1968 BECAUSE OF THE INDUSTRIAL RECESSION)



The graphs given above indicate the progress made in respect of number of industrial estates, annual output and employment provided.

**Items Manufactured in the Industrial Estates**

The units in the industrial estates are producing a wide variety of items which may broadly be classified into two categories, namely, traditional and common-place items and new items. The former refers to such items which are required to meet the day-to-day consumption needs of people and industries in the area. Though their market is not necessarily limited to the city/town/village/district or the State where these are manufactured, these have been set up in response to the local demand of the area. The latter category includes industries of national importance.

Among the new items being manufactured in industrial estates, some of the important ones are as follows:

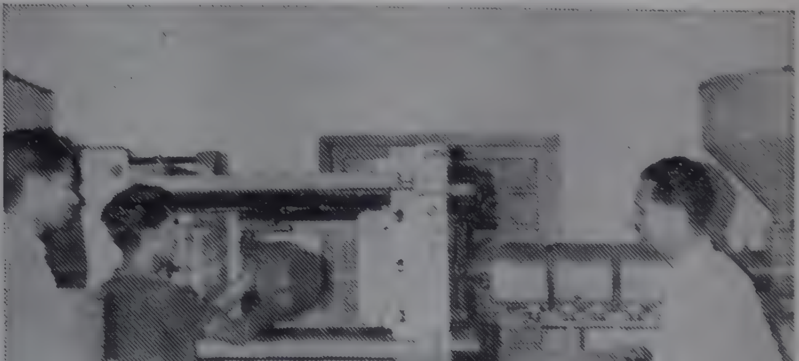
*1. Electrical Engineering*

Electric transformers; PH Meters; Air conditioning Equipment; Tape recorders; Amplifiers and

*Transistor Radios Assembling, soldering tuning etc. in one of the units.*

*Industrial Estate Chenganachery.*

*Plastic Bond under production in the Common Factory Service Centre of the Functional Industrial Estate under the N.S.I.C.*



Sound Equipments; Cycle Dynamos; Capacitors for Fans and Tubes; Electrical Stampings; AC/DC bridges, Resistance Boxes; Air-brake Switches; Device for Telecommunication Purposes; Switch Gear Boxes; Electrolytic Cooper Wire, House Service Meters, Volume and Tune Controls.

2. *Chemical*

Surgical Adhesive Tapes, Water-proof Paper, Acrylic Plastic Sheets, Ammonia and Ferro Paper, Dye-stuffs, Plastic Spirals, Synthetic Resins.

3. *Others*

Auto-miniature Bulbs and other Miniature Lamps, Sealed Beam Head Lamps, Grinding of Optical Lenses and Chemical Thermometers among the Ceramics and Glass Industries, Compressed Wood, Wood Wool, Fish Canning etc. in other industries.

It will thus be seen that among the new items there are a few which were either not being manufactured by small scale units earlier or not manufactured in the country at all, have been developed by units in the Industrial Estates.

### Lessons for the Future

Progress of Industrial Estate Programme in India during the last 14 years has been described in the preceding paragraphs. In view of the fact that some of the industrial estates are not fully utilised mainly due to wrong location, the emphasis at present is on consolidation of the past effort rather than on further expansion. It has, however, to be emphasised in this connection that the number of new factories set up in the estate, the large employment provided and the increasing annual output of both traditional and sophisticated items all speak of the success already attained.

Though there is some backlog of vacant sheds, yet it cannot be denied that a climate conducive to industrial growth has been generated in India through the programme of industrial estates. It has therefore been decided that besides consolidating the past efforts, more estates would be set up after conducting proper techno-economic surveys for ascertaining the growth potentialities in the areas where new industrial estates are proposed to be set up. The planning of industrial estates will be considered as an integral part of urban and regional development. As such they would necessarily be related to industrial development of neighbouring towns/regions.

As stated above about Rs. 190 million have been provided in the Fourth Five Year Plan for Industrial Estates Programme. The utility of industrial estates has been fairly demonstrated in metropolitan areas where the required infra-structural facilities are generally available, not much promotional measures of this type would now be necessary. Developed sites will be provided and entrepreneurs encouraged to build their own factories either individually or through their Cooperatives. Besides the developed plots, entrepreneurs are also provided finance for construction of factory sheds/estates.

Rural and semi-urban industrial estates have still extension and promotional role to play and serve as centres for further industrial growth. Setting up of such estates, however, has to be preceded by adequate pre-location techno-economic surveys. In backward and rural areas where there is paucity of entrepreneurs and skilled artisans, the State has to put in greater effort with a view to stimulate local ventures. Besides guiding the manufacturers in selecting right lines of manufacture, it may also be necessary to offer incentives for locating industrial units in backward and rural areas. The inducement may be in the shape of concession in rent on factory sheds, rebates in various taxes and preferential allotment of raw materials. The industrial estates in rural and backward areas have also to be nursed over longer periods and provided with adequate inducement to counter balance the disadvantages. The concessions should preferably be given as "Package deal" on a tapering basis.

As construction cost in case of industrial estates built by Government generally tend to be high, the State Governments have been advised to reduce the cost by increasing the design efficiency, increasing the size coverage and reducing to minimum the area allotted for roads, lawns, etc. and by not using expensive materials. There is also scope for cutting down the expenditure on unproductive administrative buildings. Staff for maintenance purposes can also be reduced to the minimum and provision for common facilities phased in keeping with the actual requirements of the entrepreneurs so as to reduce the unutilised capital.

The main lesson of industrial estates programme is that properly planned industrial estates form an effective tool both for fostering growth and dispersal of industries, but badly located they may be a collosal waste.

# PROMOTION OF ENTREPRENEURSHIP IN A DEVELOPING ECONOMY

IN the evolution of economic thought, the role of entrepreneur in developing the economy was given the pride of place only from the middle of 19th Century onwards. The classical economists recognised the importance of the entrepreneurial function but they did not make it as much a strategic variable in the system as Schumpeter did. They did not make the crucial distinction between entrepreneurship and management. Interestingly enough, a thought in this direction was set in motion by the controversial Karl Marx. Subsequently Schumpeter moulded these thought trends in a highly analytical frame into a scientific economic concept and programme. In his model of growth, the supply of entrepreneurship is the ultimate determining factor of the rate of economic growth. As a determinant in economic progress, this development factor has, of late, assumed great importance in the various programmes of development of both developed and underdeveloped countries as it is this which very often constitutes the bottleneck in public as well as private enterprise.

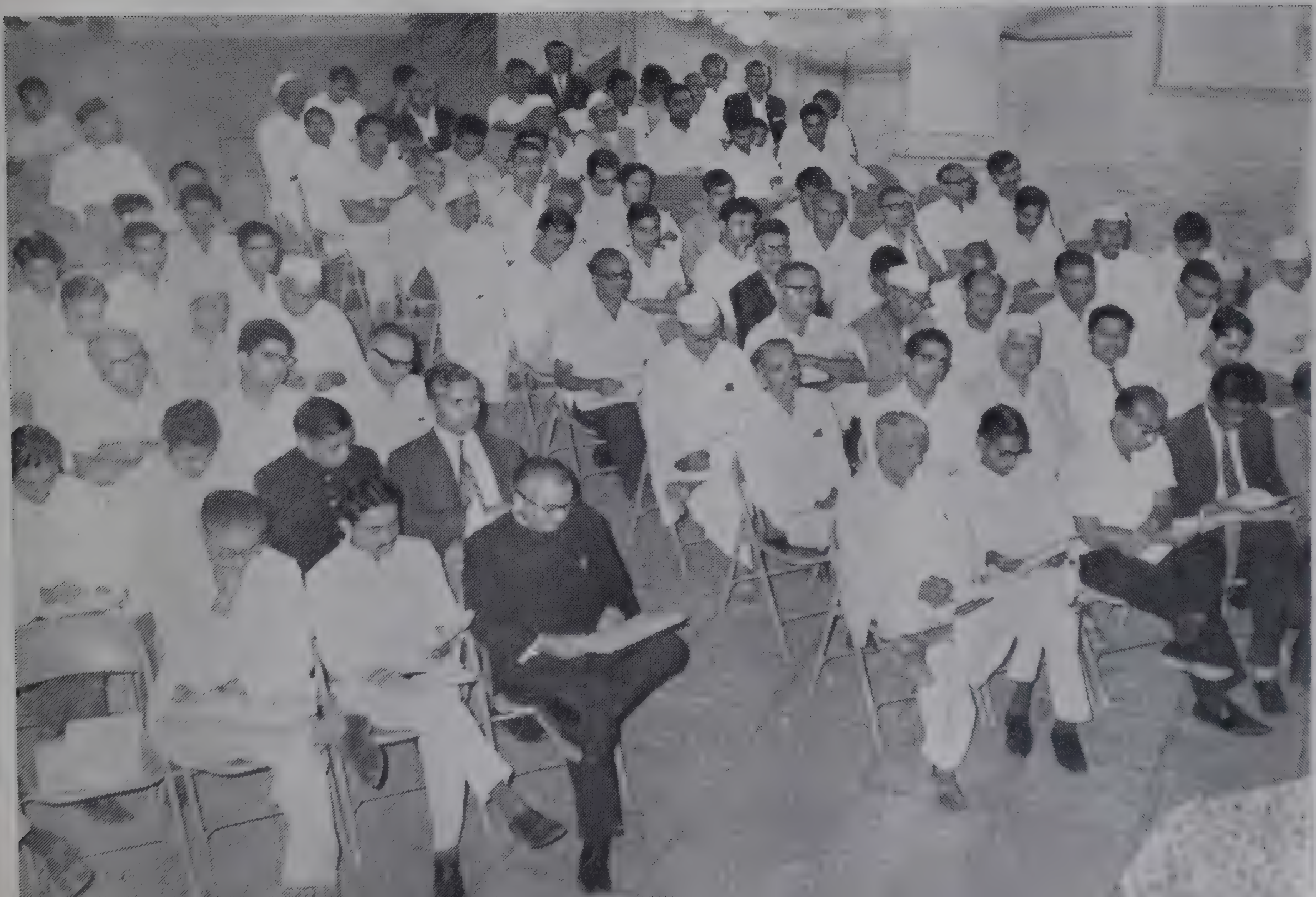
In all the theories concerning economic development, there is a substantial degree of agreement regarding the relative importance of the factors of production and the inter-relations among them. In all these theories, the pride of place is assigned to technological progress, the introduction of new techniques which raise the productivity of available resources, especially labour. The Industrial Revolution of Eighteenth and Nineteenth centuries was essentially a remarkable period of rapid introduction of new machines, new materials, new sources of power, and new techniques. In the advanced countries, this process of "innovation" continues at a rapid rate, productivity continues to increase and *per capita* income continues to increase. The highly developed countries are also the ones that develop rapidly—which goes to prove that "getting started" is the catalyst in the process of development.

The key role in this process of technological advance belongs to the entrepreneur—the "economic man".

He is the man who envisages new opportunities, new techniques, new lines of production, new products and who musters together effectively the necessary finance, management, labour and materials to do it. He may not be, and historically he has usually not been, the scientific inventor, his skills are more organisational rather than scientific. But he is different from a salaried manager who takes over an enterprise after it has been launched.

In any society, the rate of technological progress and so, of economic development, crucially depends upon the number and ability of entrepreneurs available to it. But a few entrepreneurs blaze the trail of innovation and economic expansion. Once the leader has shown the way—a better technique, a better machine or a better process—the others follow in the race for projects and power. Thus the process of "creative destruction" is the special function of the Schumpeterian entrepreneurs. His

*"Unemployment is a vexing problem indeed". The SSIDO has gone all out to organise the entrepreneurship training programme because of the pressing need to provide opportunities of self-employment to the engineers and other technically qualified people in the country. Picture above shows Shri M.R. Krishna, Union Dy. Minister for ID & IT (back to the camera) addressing technical graduates undergoing one such course organised by SISI, Madras and the Picture below is the view of another such course.*



*An open invitation to entrepreneurship*

dynamic approach, risk-bearing attitude and liking for introducing "compulsion", and 'preserves' in the economy lead to an accelerated pace of growth.

Germany or Japan or India or for that matter any country which is rising to prominence in economic development, depends upon entrepreneurship to push the levels of development to new heights. Behind the Swiss watches which are popular throughout the world is this untold story of entrepreneurship. In fact, the very birth of industrial revolution in Britain has been possible because of the emergence of the entrepreneurial class in a large way at that time. What does the emergence of U.S.A. as a world industrial power speak ?—nothing but the ingenuity and the inventiveness of the man behind the machine and the desk. World events, thus, could crowd into volumes to speak of the role of entrepreneurship in industrial development.

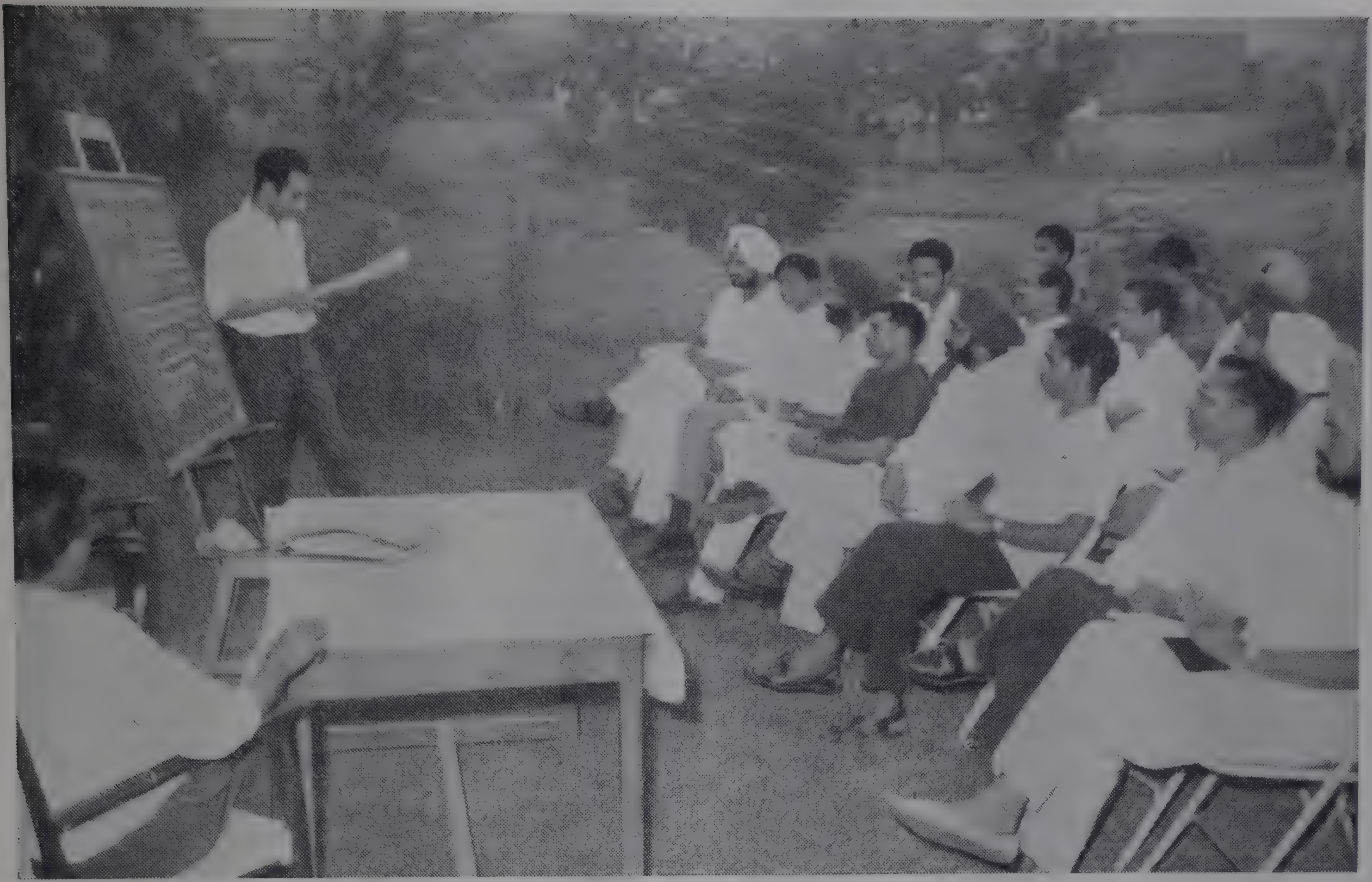
It is not always the availability of physical resources that account for the development of economies of various countries but rather it is the "ability" of the entrepreneur to utilise the resources rationally and optimally which matters. For centuries Economists did not very much take notice of the need for the entrepreneur in developing the economy. For long the developmental programmes have been based towards an emphasis on provision of physical resources like finance, machines, raw materials among others and not very much about the men who effectively handle these to achieve success and who see the opportunities for new innovations, new techniques and new avenues of enterprise. No doubt, these resources are crucially important. And yet there are countries which are profusely rich in resources and yet are poor and underdeveloped, with low living standards and level of economic development precisely due to dearth of entrepreneurial skills. There are also countries where the resources are plentiful and assistance is provided by Government in ample measure and yet owing to the lack of entrepreneurial base, they still remain economically stagnant and backward. It is almost like sowing in a barren track. Many African and Asian Countries are more or less in this stage.

On the other side, instances are not wanting of countries poor in physical resources but which have achieved a remarkable economic recovery despite the crippling effect of the Second World War. They have pioneered and maintained remarkable economic growth because of the enterprising nature of the people. Japan has no iron ore but she is one of the leading sellers of the best steel and steel products throughout the world. The rejuvenation of West German economy after the devastating effects of World War II, popularly known as the "German miracle" is a glorious instance of enlightened entrepreneurship. A flourishing economy was built right from rubble and ruin. In fact in every case of development of a country, the barometer to measure development without controversy could be attributed to the degree of entrepreneurship available.

The entrepreneur is needed to envision new techniques, new commodities, improved methods etc., to start industries, develop them and maintain them. All the resources together cannot do much without him. He is required in both developed and underdeveloped economies while the developing economies depend much more upon him. The large, the medium and the small scale sectors of industrial structure abundantly require enlightened entrepreneurs.

### Entrepreneurship in an Underdeveloped Economy

Like Marx, Schumpeter lays considerable emphasis on sociological factors and some of these cannot be easily reduced to simple quantitative expressions. This structure applies to Schumpeter's concept of



*Theoretical training in efficient industrial management is given by the SISIs and at the Extension Centres. Picture shows one such training course in session at the Extension Centre, Jullundur.*

one "social climate", a complex phenomenon reflecting the whole social, political and socio-psychological atmosphere within which entrepreneurs must operate. It would include the social values of a particular country at a particular time, the class structure, the educational system and the like. It would certainly include the attitude of society towards business success, and the nature and extent of the prestige and other social rewards, apart from profits, which accompany business success in the society. A particularly important factor in "climate" is the enterpreneur's understanding of the "rules of the game"—the conditions under which he must operate. Sudden changes in the "rules of the game" are particularly detrimental to an increasing flow of enterprise. Arthur Lewis explains the rise of an entrepreneurial class as due to the blocking of the traditional channels of social ascent. "The greater the apparent possibility of social rise through increase in economic power, the greater will be the tendency to devote energies to economic developments".

In an underdeveloped or developing economy dearth of entrepreneurship is a problem by itself. As Wilfred Mallenbaum[1] points out, in underdeveloped countries Government must not only provide the heavy dose of economic and social overhead investment but must also undertake many other specific operations which have distinct bearing on the scope of the private entrepreneur. The need is felt all the more in these countries because the socio-political structure is not competent to bring in, this class of entrepreneurs to take up industrialisation in a big way. There are certain built-in sociological and environmental resistances created by custom, religion, tradition and a variety of other social factors which reduce the availability of entrepreneurship. At any rate entrepreneurs do not come spontaneously of their own. While the other factors of production are at least in principle hirable,

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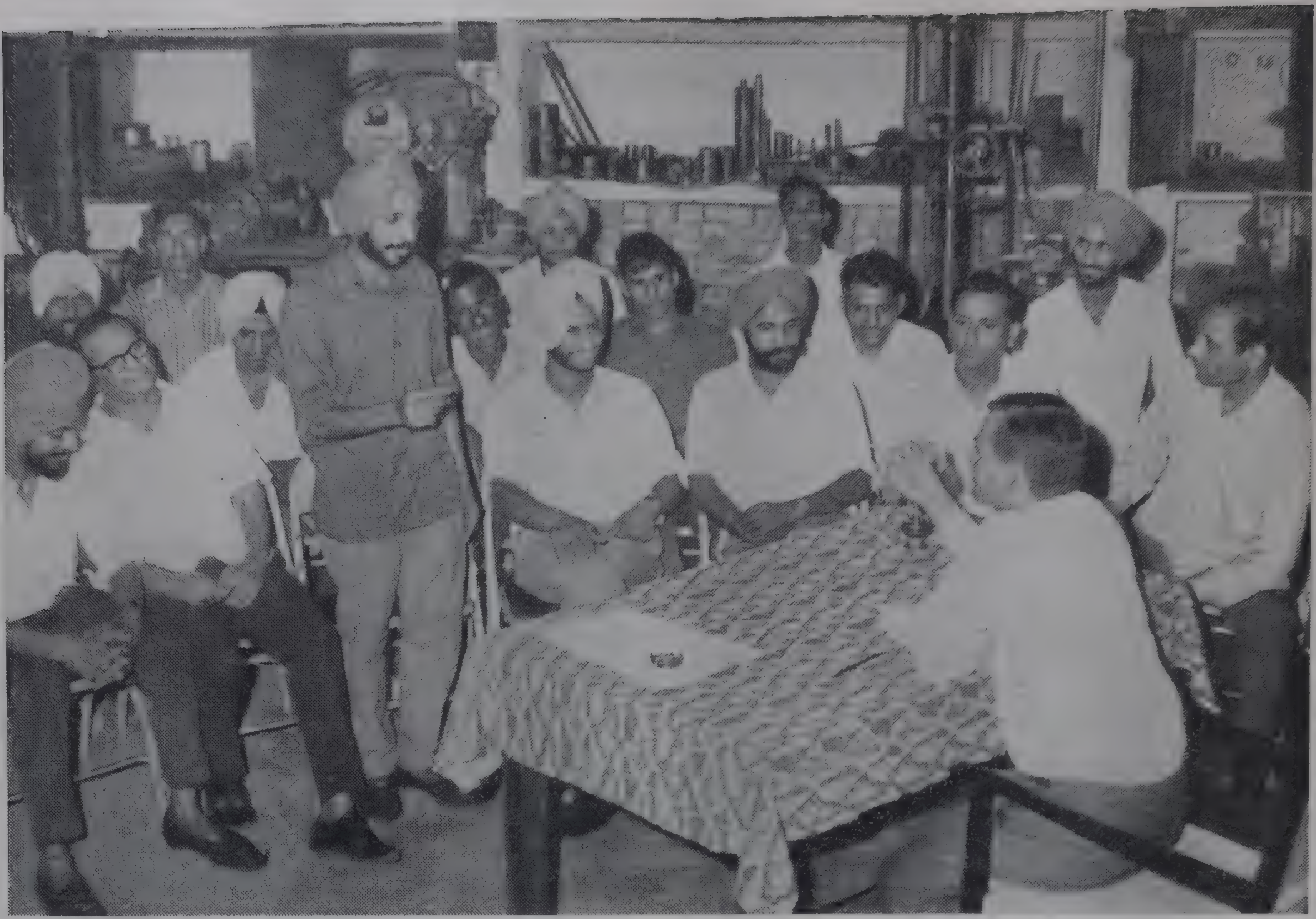
[1] Wilfred Mallenbaum—"East and West in India's Economic Development".



*Learning through study-visits to factories and group-discussions are effective methods of training entrepreneurs and industrialists. Picture shows a group-discussion on productivity.*

enterprise is not. They have to come from different vocations. Even the educational system in some of the underdeveloped countries are designed in such a way as to create more of job seekers rather than job creators.

The case of a majority of countries in Africa and Asia which are emerging from colonial economies to find their own feet, reflects more or less the condition cited above. Many of these underdeveloped countries are blessed with precious minerals, forest wealth and an abundant supply of raw materials etc., required for a grand leap towards industrialisation. Many of them are not even overpopulated. Some of them do have growing markets. Even financial assistance and skills are available from various international agencies and developed countries. Still they are far from the 'take-off' stage and what is worse?—some of them are not approaching this stage even. Invariably we come to the catalytic factor of entrepreneurship which is a requirement to make all other factors move towards fulfilment.

India is no exception to this rule even though the conditions are not that much appalling as in the case of very many underdeveloped countries. An official committee which went into the issue of licences for starting industries in India recently found out that a few business or industrial houses mop up initiative in starting industries in the large scale sector. The Small Industry Programme effectively worked out in India provides an excellent answer to this malady. One might recall in this connection the optimistic picture drawn by Prof. Walter C. Neale[2] formerly of the M.I.T. India Project, in regard to the entrepreneurship in small industries sector, particularly with reference to Punjab. The small industry programme apart from all its other achievements is a nursery for breeding entrepreneurship. Entrepreneurship is widened from one social spectrum to another on account of the phenomenal growth of this sector from a mere 37,153 registered small scale units in 1960 to .178 million in 1970. This is so far as official registered figure goes. In actual fact their number could be placed at .3 million. We shall dwell in detail on India's experience subsequently.

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[2] Walter C. Neale—"Comments on Prof. Hoselitz's Poter" University of Texas—Conference on Economic Development (1958).

The need for entrepreneurship is thus felt, but it eludes a definition. What is entrepreneurship and who is an entrepreneur? Can entrepreneurship be acquired or is it an inborn quality? How is entrepreneurship located and how far it could be nurtured? These are questions which are fundamental to any serious programme of industrialisation. The ensuing discussion attempts to answer some of these questions.

### What is Entrepreneurship

Entrepreneurship in the language of the economist is that capacity in an individual to innovate. It involves a whole range of aptitudes like the capacity to bear risks, to forecast prospects of an enterprise, confidence of competence to meet unforeseen and adverse situations etc. An entrepreneur promotes a new venture, raises the wherewithal for it, assembles the other factors of production and sets the business going.

Entrepreneurship is often differentiated from the concepts of ownership and management. It may be a person or corporate body. In the case of small scale, entrepreneurship and management are combined. Hence, they are also called owners—managers. In fact the small entrepreneur provides the realistic economic model of entrepreneurship, where the entrepreneur invests some capital in his business and also provides his own labour.

Whatever may be the circumstantial forces which shape entrepreneurship in a person, it cannot be denied that entrepreneurship is a latent talent, a native genius, that is in-born. No doubt this inherent spark, if lying dormant, could be kindled by the force of circumstances which include a variety of factors, social, political and economic and also by purposeful training in that direction. Nevertheless this spark has to be present basically.

If entrepreneurship is a purely acquired phenomenon and could be awarded like university degrees, it will have a revolutionary impact on the development possibilities of underdeveloped countries. In fact a whole lot of efforts now directed in developing these economies could be written off. The fact is, however, otherwise.

Entrepreneurs come from different vocations. Those who come straight to an industry career are few and far between. Usually responsiveness is more from such allied careers like business wherein some of the entrepreneurial attributes are called for in the personality.

Staley and Morse, in their celebrated book "Modern Small Industry for Developing Countries" identify an entrepreneur thus:—

"Initiative and capacity to advance are the qualities to be sought. If an entrepreneur though lacking in formal education and modern technical know-how shows by his practical achievements and by his innovating and inquiring attitudes that he possesses human qualities for further achievement, he is a good candidate for the investment of developmental assistance". Dr. J. E. Stepanek quotes the illustrious G.B. Shaw to identify entrepreneurship thus:

"The reasonable man adapts himself to the world. The unreasonable one persists in trying to adapt the world to himself.

Therefore, all progress depends on the un-reasonable man."

Dr. Stepanek who made extensive studies on the subject, unromantically calls this non-conformist, the innovator and the potential entrepreneur a "deviant individual". He breaks traditions and in all countries they appear to have some common characteristics which could be identified as under:—

1. A strong desire for independence and ability to stand alone.
2. Drive and energy in organising ability.
3. A desire to diversify, expand and innovate.
4. Technical and managerial knowledge.
5. Above-average intelligence.
6. Capacity to take risk.

### Entrepreneurship in India

Let us take India's experience so as to look at the concept in its entirety and depth.

Entrepreneurship was available in India from time immemorial as is the case with many other traditional countries with long history. But this entrepreneurship was confined to trade and crafts and was not so much in industry according to the modern concept of the term. Indian goods were available in the various capitals of the civilised world. In fact it is this trade link which attracted the Britishers to the Indian sub-continent. To some extent entrepreneurs from India had visited a number of

*Picture shows Shri K.L. Nanjappa, Development Commissioner (SSI) personally discussing with a small industrialist some of his problems.*

South East Asian Countries and a number of them have settled down in countries like Malaysia, Burma, Ceylon and Indonesia among others. The Gujaratis, the Marwaris and the Chettiars were the leading communities of India well known for their enterprising nature in the trade with neighbouring countries. Along with political subjugation this trend also almost vanished and Indian economy was allowed only to subserve British economic interests.

An interesting off-shoot of the early period of the British rule in India was the emergence of the Managing Agency System, to start and maintain industries in India. The need for establishing industries in India as a matter of strategy for the British empire, brought in, this development. Whatever may be the merits and demerits of this system, one thing is clear that this system reflected the first portents of entrepreneurship in the modern concept of the term in India.

India woke up to the dawn of an industrial era, after a long slumber, soon after the attainment of her political Independence. The Five Year Plans systematically ushered in this revolution. Expanding markets on the one hand and an enlightened and industrially oriented government policy enunciating the provision of various incentives and facilities on the other, have put India on the course of rapid industrialisation; large, medium and small scale enterprises began to be established in the Public and Private sectors.

As is the case with any other country India also looked up to her entrepreneurs for this big job. Entrepreneurship came almost by its own, without any scientific programme of identifying and motivating. No doubt many programmes were afoot to develop entrepreneurship. We shall deal with them in detail subsequently.

During 1960, 2,418 industrial units were estimated in the large and medium sectors and in the small scale sector 36,109 units were registered. Thus 38,527 organised factories were accounted in the field during 1960. By 1966, the large and medium sectors registered an increase of 1,738 factories bringing up the figure to 4,156 marking a 44 per cent increase in the number of factories. The progress registered by the small scale sector is spectacular, in that, from 36,109 units registered in 1960, the number rose to .178 million in 1969. If account is taken of about an equal number of unregistered units, the result is a phenomenal ten fold rise, bringing up the total number of entrepreneurs to .356 million. If we take the household sector also which account for 2.4 million establishments, the total number of industrial undertakings which call for entrepreneurial wealth of the country could be placed at 2.756 millions. Even though this is not exactly the total number of entreprenurial talents available in the country by 1969, taking into consideration that the household and a good number of factories in the small industry sactor are proprietory in nature, it can be safely assumed that the entrepreneurial wealth of the country will not exceed 3 million numbers.

Dr. Joseph E. Stepanek who made a study on this subject, with the data base of 15 countries, found out, that irrespective of the stage of development, entrepreneurs account for a narrow range of 2 to 5 per 1000 population. Even according to this conservative estimate, India lags behind other countries with about one person for every 2000 population. The need to augment this wealth is a must. Having taken a leap towards industrialisation this key factor will be a deciding one for all future programmes.

### Broad Categories of Entrepreneurs Who Started Small Industry

It is very interesting to study the background of the talented entrepreneurs who took initiative in starting new enterprises in India. No doubt the context changes from country to country according to the structural patterns that have conditioned different societies. It is necessary to go in depth since a stage has come not only to locate and identify the right type of entrepreneurs, but also to motivate and guide them on the right lines. The term "right" is used here with a purpose as it depends on the industrial outlook and philosophy of every country.

Entrepreneurial qualities being not circumscribed by purely national considerations alone, there are some universal concepts which hold good for every country. For instance India is earnestly attempting to give a technical bias to entreprenership by giving incentives to technical men who want to take up industry as a career. This trend if encouraged to a desirable extent, will, positively provide a sound foundation to industrial activity in the country, ensure self-sustaining growth of enterprises named by technocrat-entrepreneurs. The first merit of such an enterprise will be the competence to produce quality goods.

Let us find out in the context of India as to the origins of entrepreneurship. Dr. Barna a pioneering researcher, made the first study in his valuable book "Industrial Entrepreneurship in Madras State" published in 1960. The broad categories of 52 establishments analysed by him are as under:—

TABLE 1

| Background | Number of entrepreneurs |
|---|---|
| 1. Rural Artisans | 5 |
| 2. Factory Workers | 6 |
| 3. Businessmen and Importers | 15 |
| 4. Graduate Engineers with experience and other Engineers | 16 |
| 5. Land Owners | 4 |
| 6. Entrepreneurs from Service | 6 |
| | 52 |

McCrory has also reported on entrepreneurial origins in the Indian metal working industry in a north Indian town. The sample was quite small numbering nine. Eight of these factories were founded by artisans while one was by a businessman. He further made a study of successful entrepreneurs and found that among the nine, the businessman was the most successful. Even though the artisan can bring in an intimate knowledge of his production experience, he will be lacking the businessman's sales experience.

A study of one of the Information Counters of the SISI, an extension activity under the S.I. Programme in India, which has a coverage of a fairly backward area, provides data as shown in Table 2.

Similarly the DCSSI compiled 43 success stories of entrepreneurship from a cross section of entrepreneurs who were successful. Data pertaining to the same are given in Table 3.

The data given in Table 3 relate to entrepreneurs who are from metropolitan areas. In order to have a comparative picture of rural areas also, data pertaining to 50 successful entrepreneurs from RIP projects relating to small industry are given in Table 4.

TABLE 2

Total number of entrepreneurs reported 157

Duration January 1969 to December, 1969.

| Type of Industry | Different backgrounds | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Business | Industry | Unemployed | | Agriculture | Service | | Total |
| | | | *Tech. experienced | Not experienced | | *Tech. experienced | Not experienced | |
| Mechanical | 11 | 3 | 4 | — | 1 | 5 | 3 | 27 |
| Chemical | 25 | 13 | 3 | 3 | 2 | 3 | 3 | 52 |
| Electrical | 4 | 1 | 3 | — | — | 2 | 2 | 12 |
| Ceramics | 4 | 1 | 2 | — | — | 1 | — | 8 |
| Hosiery | — | — | 1 | — | — | — | — | 1 |
| General | 9 | 10 | 17 | 4 | — | 9 | 8 | 57 |
| Total | 53 | 28 | 30 | 7 | 3 | 20 | 16 | 157 |

* Technically qualified and experienced person.

## TABLE 3

No. of Successful Entrepreneurs — 43
Area covered —— All India
Period —— 1968-69.

| Industry/Trade | Backgrounds | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Agriculture | | Service | | Artisans | | Unemployed | | Business | | |
| | Q | NQ | Q | NQ | Q | NQ | Q | NQ | Q | NQ | |
| Mechanical | 1 | — | 6 | 3 | — | — | — | — | 4 | 3 | 17 |
| Foundry | — | — | 2 | 1 | — | — | 1 | — | — | — | 4 |
| Chemical | — | — | 3 | — | 1 | — | 1 | — | 5 | 2 | 12 |
| Electrical | — | 1 | 1 | — | — | — | 1 | — | 3 | — | 6 |
| Ceramics | — | — | 1 | — | — | — | — | — | 1 | — | 2 |
| Hosiery | — | — | 1 | — | — | — | — | — | — | — | 1 |
| Leather | — | — | — | — | — | — | 1 | — | — | — | 1 |
| | 1 | 1 | 14 | 4 | 1 | — | 4 | — | 13 | 5 | 43 |

Q — Qualified
NQ — Not qualified

## TABLE 4

Number of Entrepreneurs — 50
Period — 1968
Area — All India

| Type of Industry | Background | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| | Business | Artisan | Unemployed | | Agriculture | Service | | |
| | | | Tech. and Exp. | Not Exp. | | Tech. and Exp. | Not Exp. | |
| Mechanical | 4 | 6 | 2 | 1 | 5 | 9 | 3 | 30 |
| Chemical | 4 | 1 | — | — | 3 | 2 | 3 | 13 |
| Leather | — | 2 | — | — | — | — | 1 | 3 |
| Ceramics | — | — | — | — | — | 1 | — | 1 |
| Electrical | — | — | 1 | — | — | 1 | — | 2 |
| Foundry | — | — | — | — | — | — | 1 | 1 |
| Total | 8 | 9 | 3 | 1 | 8 | 13 | 8 | 50 |

The data given above are culled out from different situations so as to give a varied picture from different areas and from the point of view of different programmes. To this extent the data are likely to be biased. Dr. Barna's study relates to South India while that of McCrory represents the North. Table 2 reflects the case of entrepreneurs who have chosen appropriate lines of manufacture, while table 3 reflects successful cases of entrepreneurs. Table 4 gives a panoramic view of different Rural Industries Projects areas situated in different parts of the country.

Even though there are bound to be changes by which one group is likely to give way to another group in course of time, Table 1 and 3 suggest that Business background is very much responsible to small industry career. Agriculture seems to be the least responsive. In fact the one case from Agriculture reported in Table No. 3 is that of a qualified person who wants to get out of agriculture for a career. Another revealing indicator is that when it comes to becoming a success in the venture, the technically qualified, experienced persons stand out as is evident from table 3 and table 4. The comparatively high figure relating to agriculture appearing in Table 4 is due to the rural bias of the programme. Even here those who are artisans and are successful from an overwhelming majority.

The tables also indicate the success in the emphasis of the small industry programme on technician entrepreneur as the callers from this group form second highest in Table 2.

Even though it is not possible to find out motivations of different entrepreneurial groups from the above tables, the following indicators are available. When it comes to chosing prospective lines chemical items form the star attraction but when it comes to the success in manufacture (Table 3) mechanical lines top the list. This may be due to the predictable and easy processes involved in manufacturing, availability of skills and the demand from local markets. An interesting background in Table 2 comprises those who come from industry itself. As is seen from the table the demand is more for chemical items and for general prospective items. This indicates that the recession and overcrowding in mechanical engineering sector is pushing entrepreneurs to other avenues which are more prospective.

Many more interpretations could be made. The data given will be of immense value for those who want to arrive at conclusions from required angles.

**Entrepreneurial Motivations**

A question often asked is—IS ENTREPRENEURSHIP BORN OR CAN WE MAKE AN ENTREPRENEUR ? Entrepreneur is no doubt born as the artist is born in a person. That does not mean that the artist cannot be trained for greater achievement. Same is the case with salesman.

What motivates a person to select industry as a career? Many authors have gone into this question. Stepanek who has studied Japanese, Burmese, Indonesian and Indian conditions provides some guidelines. The following are considered motives:—

1. To possess wealth.
2. To possess independence.
3. To possess social standing.
4. To create something new.
5. To possess power.
6. To meet national needs.
7. To have the enterprise grow.

Studies are yet to be conducted in a systematic manner as to which of the motives are ideal for ensuring success. No doubt this depends upon various typical situations. This study however was revealing in that profit motive is not the only criterion in an industry career as is commonly believed. And in many cases profit motive is a poor second to others as far as result is concerned. The gestation period for successful entrepreneurship is found to be more in the case of profit motivation than in others.

**Environmental Factors in Motivating Entrepreneurs**

The following environmental factors could motivate entrepreneurship:—

1. Political stability.
2. Social prestige as an industrialist.
3. Traditions in industry career.
4. Education programme.
5. Linking up achievement motivations to personality.
6. Social environment with effects on early childhood.

*India's Experience in Motivating Entrepreneurs*

Under a comprehensive small industry programme, India had an outstanding and rewarding experience in motivating persons towards industry.

During the last one and a half decades 637,706 persons were given technical advice, 289,361 were given counselling in starting new industries and 732,652 persons were given general information on small Industry. In all, the total clientele who have been motivated towards this programme crosses the figure 1.6 millions.

How was this stupendous achievement realised by SSIDO? The following facts give the answer:—

1. A net-work of SISI's numbering 16 with 59 Extension Centres were established to give counselling in economic, management and technical aspects of small industry.
2. A personnel of about 800 having various types of technical, management and economic

1. Intensive Campaign is a successful technique used to develop entrepreneurship in backward areas.

Pictures show:

*Heads of various government agencies on the way to the Acceptance Committee meeting where the applications for machines on easy instalment basis are decided on the spot during an Intensive Campaign recently conducted at Rae-Bareilly, U.P.*

*Entrepreneurs are assisted with all that is needed to start a small factory including, of course, filling-in his case-sheet.*

*Help rendered is so complete that even typing assistance is readily available* expertise were brought in the field for this purpose.

3. About 500 technical schemes apart from other literature were published and made available at a nominal charge to the public.
4. Special programmes for attracting technical entrepreneurs and others in ancillary development etc. were arranged.
5. The organisation conducted surveys of industry, areas and markets to suggest scope for industries in different areas of the country.
6. Special training programmes were conducted to initiate interested entrepreneurs in their respective industry careers.
7. Special programmes to motivate entrepreneurs were arranged through what are called "intensive development campaigns", details of which are discussed in this souvenir.
8. Exhibitions, both permanent and temporary, are organised by the Organisation so as to attract persons towards small industry.
9. Lectures and Open House Discussions were arranged and publicity measures taken to project the image of small industry as an attractive career were and are being organised.

**Identifying and Developing Entrepreneurship**

The SSIDO is the pioneer in India in identifying and developing entrepreneurship in the small scale sector with a network of extension organisations called Small Industries Service Institutes, one in each State. Besides, there are also a few extension centres at selected places of industrial concentrations. The extension service of the SSIDO is also to reach the smallest administrative unit by collaborating with the district officials of the State Directorate of Industries in each State. It has evolved from its long experience many effective extension techniques for identifying and developing entrepreneurship. We shall discuss them in detail in this section.

(a) *Industry Information Service*

The Small Scale Industries Development Organisation in India has a network of 17 information centres where service in the form of industry counselling is provided to entrepreneurs. The approaching visitor is screened, appropriate prospective line of manufacture is picked up for him and economic information about the industry is furnished to enable him to take a decision. He is subsequently given a comprehensive scheme which serves as a guide to further action. This contains required technical, managerial and economic know-how enabling him to set up the proposed factor. Subsequently follow-up action is taken to enable the entrepreneur to receive the inputs necessary like finance, machinery, workshed, raw materials from other agencies. The entrepreneur is assisted till such time he markets his goods. The Organisation continues to give him various types of assistance so as to make his unit more and more viable. In fact these services identify and encourage entrepreneurship. These Centres often motivate entrepreneurship also.

There are a number of other Governmental and Non-governmental Agencies who identify and assist entrepreneurs according to their needs.

It is interesting to compare the figures relating to the entrepreneurs who seek advice to start new industries and the number of entrepreneurs who set up small scale units in particular years.

TABLE 5

**Entrepreneurs who seek advice to start new units and those who establish new units**

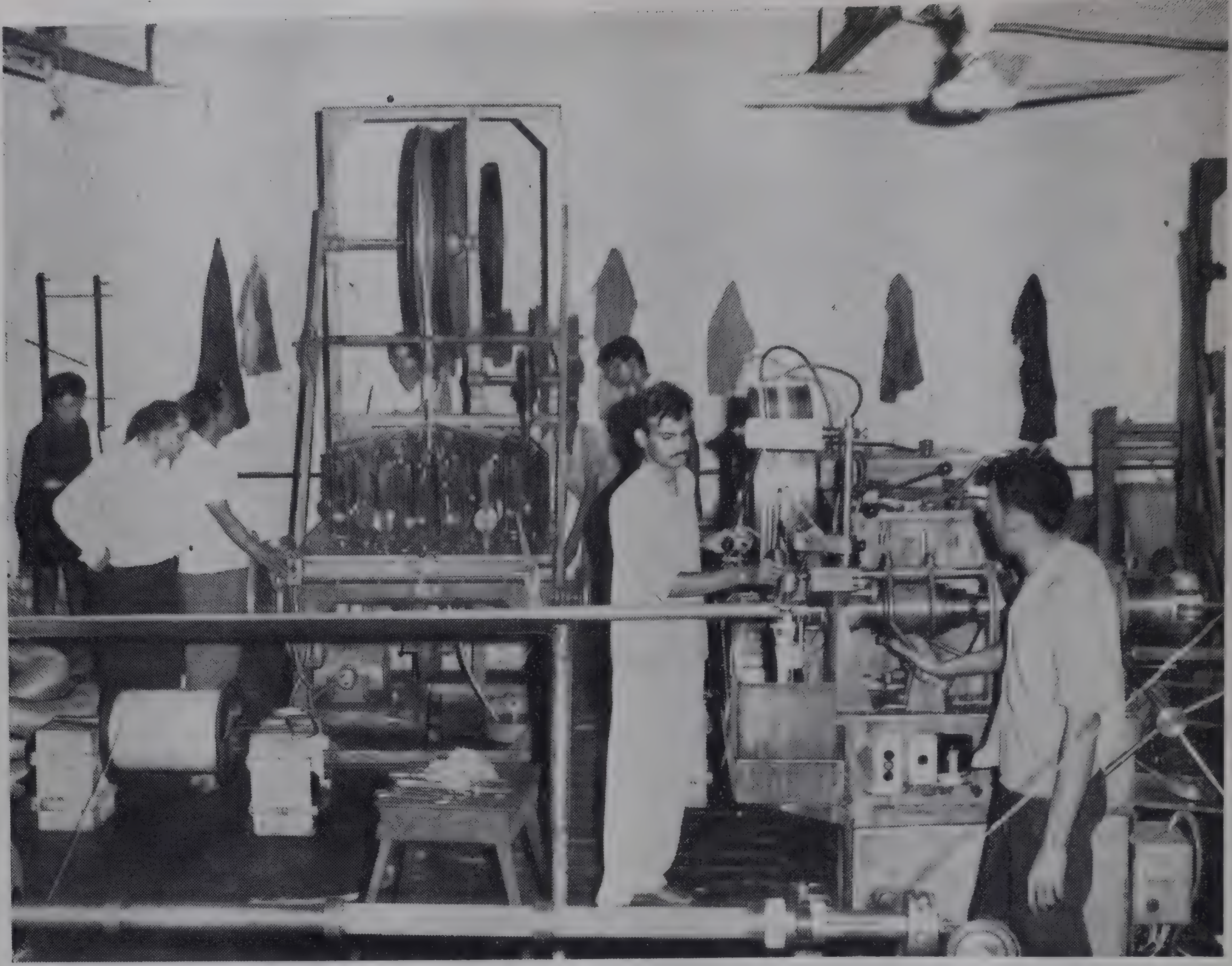
| Year | No. of units registered during the year | No. of entrepreneurs who seek advice |
|---|---|---|
| 1961 | 7,153 | 23,169 |
| 1963 | 4,698 | 24.995 |
| 1964 | 18,149 | 24,569 |
| 1967 | 60,000 | 28,810 |

It may be seen that the number of entrepreneurs who seek advice to start new enterprises is more or less steady while the number of those who establish vary from year to year. A big spurt was witnessed during the period 1964—1967.

(b) *Intensive Development Campaigns*

This is another extension technique developed by the SSIDO specifically to motivate, identify and assist entrepreneurs in industrially backward areas. In these campaigns all the agencies who help entrepreneurs in establishing a small scale unit offer their services in a coordinated manner practically, at the door step of the entrepreneur.

By publicity through the Press and other media and by interviews with Small Industry Associations, prospective entrepreneurs and others including local



*Once an industry is set up, it provides gainful employment to a number of persons, apart from being an independent source for a reasonably decent independent income for the entrepreneur.*

officials a suitable climate is created to motivate the entrepreneur. Prior to the launching of the campaign, a survey of new industrial possibilities is conducted. During the campaign all the processes involved from selecting an appropriate line of manufacture to processing of applications for machinery on hire purchase basis, finance, workshed, etc. are finalised then and there.

Entrepreneurship could be adjudged by tracking the movements of entrepreneurs from the stage of registering the unit to that of producing the first batch for the market.

The assistance relating to the provision of machinery on hire-purchase basis offered by the NSIC is a programme which develops entrepreneurship. This corporation has given machinery worth Rs. 380 million on hire-purchase basis to about 10,000 entrepreneurs till 1969-70.

It is not that all those who register to become small industrialists actually set up the unit. There are many drop-outs. It depends on the degree of entrepreneurship among the people. A study of these drop-outs and their reasons will give revealing answers to many un-answered questions relating to entrepreneurship.

### (c) *Ancillary Programme*

Of late, the SSIDO is laying emphasis on the programme of producing ancillary items which go as components directly to the assembly lines of large scale units. Since this type of manufacturing has almost an assured market in the sense that production is taken up according to specifications and against a fine schedule of demand, enterpreneurial skill on the production side is called for in greater measure.

How are these successful entrepreneurs identified? Even though there are no hard and fast rules, the SSIDO out of its experience developed some guidelines which cover the following points:—

1. Technical qualifications;
2. Experience;
3. Background;
4. Confidence in selling;
5. Own money which can be invested;
6. Availability of skills for the proposed plant;
7. Future programme.

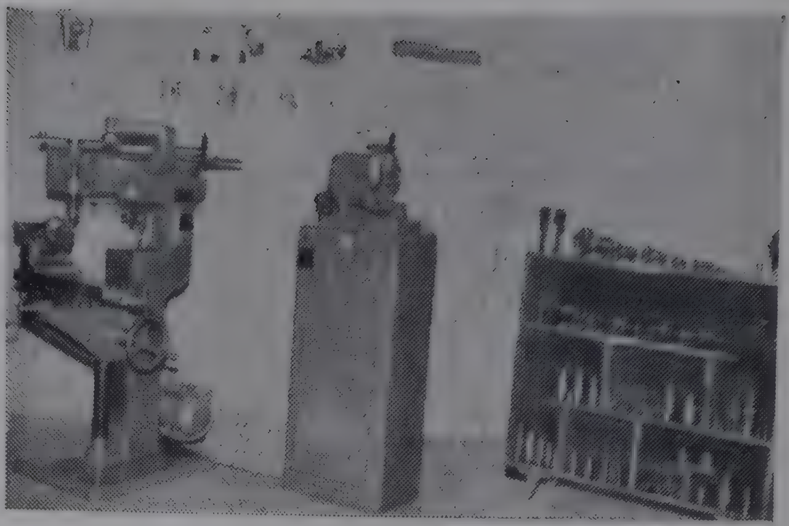
In the case of ancillaries to Large Scale Undertakings in the Public Sector, entrepreneurs are generally selected by a Committee consisting of representatives of the parent unit, technical experts and officials from Governmental Agencies and representatives of trade organisations. Many large scale units in the Private sector are also reported to be following this procedure of late.

The programme is designed to develop entrepreneurship with technical background, So far about 10,000 ancillary units are in the field manufacturing variety of parts sophisticated components and subassemblies to a number of large scale establishments.

### (d) *Financial Assistance in Developing Entrepreneurship.*

Financial Assistance is the most effective incentive for attracting entrepreneurs. Assistance is given by various agencies to entrepreneurs viz. (1) by the State Government under State Aid to Industries Act, (2) State Small Industries Development Corporations set up at the State level, and (3) Commercial banks.

The State Governments under the respective State Aid to Industries Acts provided assistance to the tune of Rs. 129.1 million during 1955-56 to 1960-66. The corporations advanced upto June 1968 Rs. 262.4 million. The amount of loan advanced by the commercial banks upto June 1968 was to the tune of Rs. 3212 million covering about 75,100 applicants.



*Products manufactured by ancillary small industries on display in SISI, Bangalore.*

In India the lending functions of commercial Banks has undergone considerable change and small industry sector stands to benefit. The banking system has been geared to promote industrialisation. Hence various types of industrial loans for broad categories of entrepreneurs have been evolved. Therefore, the need for sensing through the entrepreneur, identifying the right and successful type, and assessing the success of his entrepreneurship was required to be done. The capacity and competence of the entrepreneur rather than creditworthiness is the criterion qualifying him for financial assistance from the commercial banks. The emphasis is increasingly laid on providing opportunities to promising entrepreneurs or in other words, to develop entrepreneurship.

### (e) *Inculcating Entrepreneurship through Demonstrations and Training.*

The SSIDO has 46 mobile demonstration workshops in various trades. These workshops go to rural areas and give demonstrations and training to artisans, thus encouraging them to set up modern small industries. During 1967-68 alone 1,033 Centres were visited, 3,730 demonstrations were held and 6,416 artisans were trained.

In improving the skills of entrepreneurship the SSIDO has a comprehensive Service relating to management skills of small industry. The following table gives the various types of programmes and achievements:—

TABLE 6

| Type of programme | No. trained | Period |
|---|---|---|
| Management Courses | 19,189 | 1965 to 1968 |
| Technical Courses | 21,953 | |
| | 41,142 | |

Of late, the organisation has turned attention to training unemployed technical graduates and moulding them into small industry entrepreneurs. During the current year 12 such courses have been taken up for 600 unemployed engineering graduates.

### (f) *Industrial Estate Programme*

In India there are 505 Industrial Estates in urban, semi-urban and rural areas. This programme in India was meant not merely to rehabilitate industries but also with a view to disperse industries into rural areas for ensuring a balanced growth. It will be interesting to note that the programme has been so designed as to attract entrepreneur to set up industries in these estates. Due to various reasons, the setting up of an industrial estate acts as a catalyst in attracting and developing entrepreneurship. There are 5,183 small establishments in these industrial estates.

### (g) *Marketing Assistance*

The recent recession in India brought in its wake the weakest point in the entrepreneurship of small industrialist, his capacity to sell. Marketing problem is the greatest of all the problems facing the small industry sector.

The SSIDO has a market research division which conducts and assists industrial entrepreneurs in expanding the market for his products. A nominal fee is being charged for this purpose. So far 254 such studies were conducted.

A major marketing programme is to assist the small industrialist in participating in the Central Government Stores Purchase Programme. As at the end of 1967, 16,804 entrepreneurs were registered for this purpose.

Various State Governments have also set up Corporations to undertake marketing jobs for small industrialists both inside and outside the country.

### (*h*) *State Government Scheme*

In order to attract entrepreneurs and help them to set up industries, the State Governments have given a series of concessions and facilities which may be brought under the following heads:—

1. Provision of land at attractive rates.
2. Financial assistance.
3. Subsidy in interest rate.
4. Exemption in octroi duties.
5. Tax relief and concessions for a period of 3 to 5 years in the initial stages.
6. Meeting the charges for undertaking project studies.
7. Price preference and other concessions offered in Government purchases.
8. Equity participation in capital.
9. Underwriting risk.

These incentives have helped many to take up small industry as a career and develop their entrepreneurial talents.

### Selective Entrepreneurship

The progress of industry, its viability and strength depend to a great extent on the quality of entrepreneurship. Any developmental organisation has to keep a watch over those movements and build up the required quality from within. The SSIDO has been engaged in this endeavour for a decade and a half. The growing unemployment problem among technically qualified persons has called for vigorous efforts to transform these technical men into job creators instead of seekers. Incidentally, this will give a sound technical basis to the small enterprises. The SSIDO has a programme to train 600 unemployed engineers for entrepreneurship through a purpose-oriented training programme during 1970.

Training in entrepreneurship in a scientific and systematic way, giving theoretical and practical studies was recently taken up in Gujarat State. The proposal envisages selection of 6 centres with 50 candidates each. A panel is being set up to prepare guidelines and test entrepreneurial qualities in candidates. Each candidate will be assigned a selected industrial unit. The duration of training is 90 days with 3 to 4 hours spent in practical training each day.

An interesting programme co-sponsored by the Gujarat Industrial Development Corporation, Gujarat Industrial Investment Corporation and Gujarat State Financial Corporation is what is called Entrepreneurship Development Project (E.D.P.). This Project aims at identifying and developing selected employees into owner-entrepreneurs. A brain-trust panel selects suitable candidates on the basis of "proven entrepreneurial qualities".

Under this programme six centres in Gujarat have been selected namely Ahmedabad, Baroda, Surat, Jamnagar, Bhavanagar and Rajkot. Training is imparted in subjects like preparation of projects, rules and procedures to organise a small unit, purchase of raw material and machinery, selection of personnel, accounting, pricing and marketing. The trainees will be given practical training in the small industry units. Lectures include those from experts as well as successful entrepreneurs themselves. The successful trainee has to submit a comprehensive project report. When approved, facilities to implement this project in regard to finance, raw materials, workshed etc. will be made available in a package manner according to the assistance programme envisaged for development of small industries.

The project at Ahmedabad got started on 8-4-1970 and was completed on 20-7-1970. The results will be of interest. 55 participants took part, whose break-up on occupational basis is as under:

| | Nos. | Percentage |
|---|---|---|
| Employees with sound product idea and technical know-how and years of experience | 30 | 54 |
| Technicians (Diploma/Degree) with sound product idea and technical know-how and a little experience | 8 | 15 |
| Merchants with sound idea, a little technical know-how and good marketing knowledge | 15 | 27 |
| Salesmen/Store-keepers with sound product idea and a little manufacturing know-how and good sales knowledge | 2 | 4 |
| | 55 | 100 |

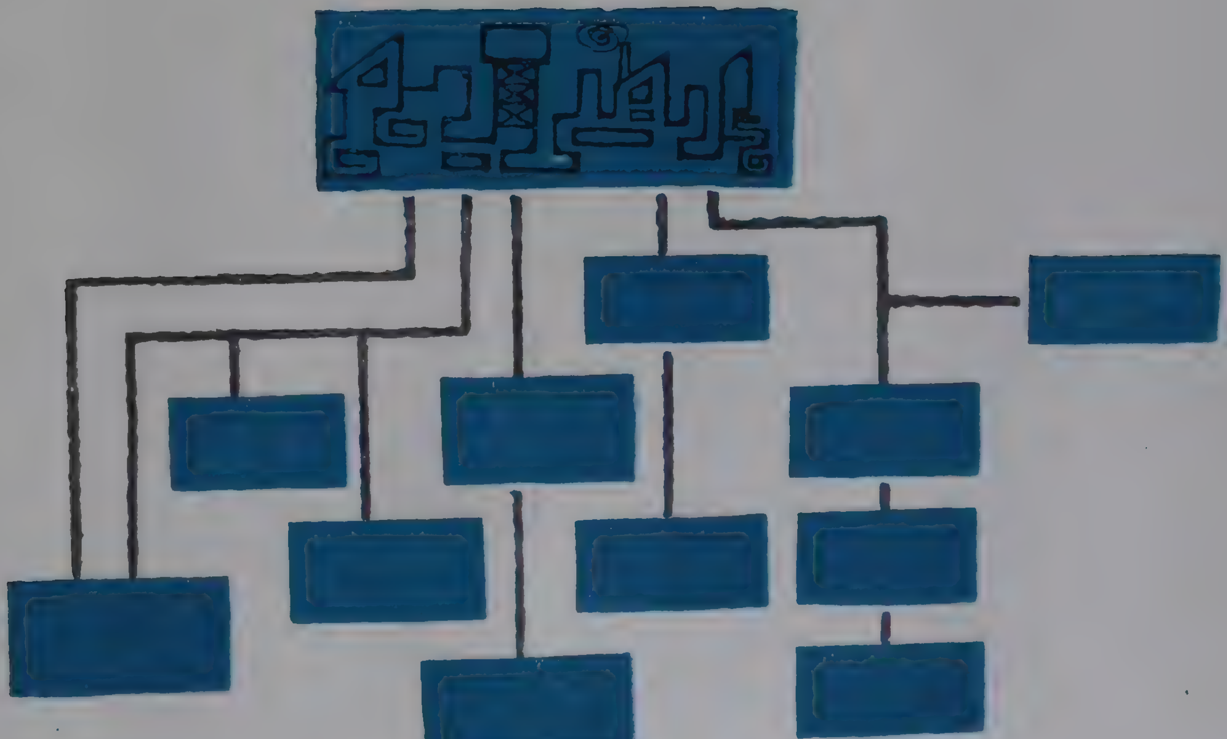
**Motivating Influences**

| Major sources of influence | No. of candidates in the category |
|---|---|
| Family (Heritage) | 15 |
| Past background | 3 |
| Educational institutes | 18 |
| Government Policy | 29 |
| Example of others | 14 |
| Experience (own) | 36 |
| Personality (own) | 40 |

Out of these trainees, 26 of them submitted project reports which were finalised. 16 applications for loan have been submitted to Gujarat Industrial Investment. Corporation and two applications to Gujarat State Financial Corporation. This programme has gathered momentum in that, it is being adopted by other State Governments and Industries Associations.

The vigorous and systematic efforts made by India in the field of entrepreneurship development were spelt out in the above lines. This study will be incomplete without acquainting oneself with the programmes of the Small Industry Extension Training Institute, Hyderabad, which conducts studies in entrepreneurship, provides guidelines in motivating, identifying and developing entrepreneurship and conducts suitable training courses for the purpose.

# ORGANISATIONAL FRAME-WORK



# ORGANISATIONAL STRUCTURE OF SMALL SCALE INDUSTRIES DEVELOPMENT ORGANISATION

THE Small Industry Programme in India had drawn its inspiration and direction from the Industrial Policy Resolutions of 1948 and 1956 and the successive Five Year Plans. The Industrial Policy Resolution of 1956 had underlined the need for a small industries development programme "to ensure that the small scale sector could acquire sufficient vitality to be self-sustaining. For this purpose it was considered essential that the techniques of production of small scale enterprises should be constantly improved and modernised and that such serious handicaps of small scale producers as lack of technical and financial assistance, inadequacy of facilities for tooling and testing, unsuitable working accommodation, etc. should be removed progressively to increase the efficiency of the small scale sector as a whole."

The successive Five Year Plans being comprehensive blue-prints of economic development of the country reflected the prevailing economic conditions and suggested ways and means for ushering development all round. The five year plans therefore fixed priorities and evolved programmes for economic and social improvements in which Small Industries Programme was given an increasing role to play. The development of this sector was also designed to meet specific national objectives, like providing increasing employment opportunities, dispersal of industries in interior and backward areas and mobilisation of locally available resources and skills, to mention a few.

It may, however, be stated at the beginning that the development of small scale industries is primarily the responsibility of the State Governments; but, in consideration of the fact that various questions and issues involved in the programme of development of small industries have an all India character and can be efficiently considered and tackled only at the national level and also because of the scale on which efforts would have to be made, it was considered desirable by the Central Government to assume responsibility for planning and coordinating the basic programme of development. With this end in view, an All India Board, known as the Small Scale Industries Board was set up in November 1954, charged with the responsibility of overall planning, coordination and development of small scale industries in the country. The Board comprises of Central and State Government officials, representatives of various institutions, financing bodies, Federation of Small Scale Industries Associations and a number of non-officials representing trade, industry and other interests. Meetings of the Board are held by rotation in each State, usually once every six months. This, no doubt, helps the members to acquire first-hand knowledge of developments in every State besides drawing their attention to particular problems of local industries. The Board discusses questions connected with credit facilities, supply of raw materials, revision of the definition of the Small Scale Industries for the purposes of the Assistance Programme, dispersal of industries, etc., reviews the programme of implementation and formulates new directives for further growth of the small industry sector. Although the Board functions in an advisory capacity, its decisions are given very great importance by the Government.

*The Small Scale Industries Board is the highest policy-making body for the development of small scale industries in India. Shri Dinesh Singh, Minister I.D. & I.T., Government of India and Chairman of the Board speaking at the Board Meeting at Bhubaneswar. He is flanked by Ministers from the Centre as well as the States*

### (a) Small Scale Industries Development Organisation (SSIDO)

In order to carry out various programmes and policies of the Government of India relating to the development of small scale industries, and on the strength of the recommendations of the International Team of the Ford Foundation on Small Scale Industries in India, an organisation at the national level with the Development Commissioner, Small Scale Industries, at its head, was set up in 1954 under the then Ministry of Commerce & Industry Government of India.

The Small Industry Sector which emerged as a distinct sector on the national scene in the second half of the decade between 1950-60, came into its own by the first half of the sixties and acquired a significant place in the industrial economy of the country with substantial contribution to the total industrial output and employment in the latter half of the sixties. The Small Industries Development Programme administered by the Organisation of the Development Commissioner (SSI) in the beginning, looked after all segments of the small industry sector including common basic trades like blacksmithy, carpentry, etc. As the programme expanded, the Organisation got into some specialised promotional fields like ancillary development, import substitution, export promotion, etc., and became increasingly involved in programmes relating to supply of finance, raw materials, infrastructural facilities, etc.

It is both a coordinating and executive agency. It maintains close liaison with the State Governments and different organisations and institutions at the Central and the State levels concerned with the development of small scale industries. It functions through 16 Small Industries Service Institutes (one in each State, including the Union Territory of Delhi), 7 branch Institutes, 55 Extension Centres, 2 Training Centres and 3 Production-cum-Training Centres.

The main functions of the SSIDO include (i) coordination, (ii) industrial development, and (iii) industrial extension service.

*Co-ordination*

The Organisation coordinates the work relating to the development of small scale industries on an all India basis by:

i. evolving an all India policy and programme for the development of small scale industries;
ii. co-ordinating the policies and programmes of various State Governments;
iii. acting as a liaison between different States as also between the States and Central Ministries, Planning Commission and Reserve Bank and State Bank;

*Small Scale Industries Board in session*

iv. coordinating the programme for development of large and small scale industries; and

v. coordinating the programme for the development of industrial estates and ancillaries all over the country.

For coordination purposes, the SSIDO undertakes the implementation of the various recommendations of the Small Scale Industries Board and other Committees.

The Central Government renders technical assistance which may be required by the State Governments for preparing schemes within the overall plan allocations. It assists the Ministry in regulating the Central assistance to the States for the development of small scale industries. It also watches the progress in the expenditure incurred by the State Governments in the development of small scale industries.

Co-ordination at the all India level is effected in special fields of development like Industrial Estates, Ancillaries, etc.

*Industrial Development*

For the development of ancillary industries, the SSIDO establishes liaison with the public and private undertakings and the Directorate General of Technical Development, etc. to ensure proper utilisation of the existing production capacity in the small scale sector.

An important function of the SSIDO is to suggest a pattern of small scale industries development for the country as a whole. This involves responsibilities for indicating the lines of manufacture which are suitable for the small scale sector and giving it all assistance in the form of promotion, procurement of raw materials and machinery and other technical advice from time to time.

The SSIDO is represented on different licensing Committees, Development Councils and other bodies and seeks to safeguard the interests of the small scale sector.

*Industrial Extension Service*

The main ingredients of industrial extension services are elaborately discussed elsewhere in this publication. However, they are mentioned below so as to provide a glimpse of the wide range of services.

*They arrive from all parts of the country. Shri Dinesh Singh, Minister I.D. & I.T. arriving at Bhubaneswar to attend the Board Meeting.*

These services have been shaped to their present pattern after gaining experience in the respective fields, some of which are not only complicated but sophisticated also. At the State level, the Small Industries Service Institute functions as the apex agency rendering a coordinated Industrial Extension Service to the small industries. The Service Institutes work in close cooperation with the State Directorates of Industries as the development of small industries within the respective areas of the State is the primary responsibility of these Directorates. The Extension Centres are miniature Service Institutes, in the sense that their activities are limited to one or more specific industries within a definite area which is generally a small part of a State.

*Technical Service*

This involves provision of (1) Technical know-how (2) Know-how on machinery process, costing and other ingredients (3) Problem-oriented technical consultancy (4) Intensive studies in depth, (5) Designs and Drawings (6) Prototypes (7) Workshop and laboratory services and (8) Training in technical trades and through mobile workshops.

*Economic Investigation and Information Service*

The Organisation currently conducts (1) Area Potential Studies (2) Industry Surveys (3) Market Surveys (4) Industry Information Service (5) Intensive Development Campaigns (6) Evaluation Studies

*Shri K.L. Nanjappa, DC(SSI) speaking at the seminar conducted to evaluate the programme and achievements of the SISI Bombay*

(7) Topic Research (8) Feasibility Studies and also prepares (9) Financial Assessment Reports on small industries applying for loans to the commercial banks.

*Management Services*

The management services comprise of (1) Management Training (2) Management Consultancy (3) Diagnostic Studies (4) Integrated Plant Studies (5) Open House Discussions and Seminars and (6) Training in Entrepreneurship.

*Marketing Services*

Market Surveys have been partly mentioned above under 'Economic Services'. Besides, the same assistance is rendered to small industrialists through (1) Government Stores Purchase Programme (2) Export Marketing and (3) Trade Centres and Exhibitions.

In the case of Industrial Estate Services, raw material and financial assistance programmes, ancillary development and sub-contracting exchanges, this Organisation has been assigned a key role. These are no doubt important co-ordination functions. Of late, some of these services like ancillary development and sub contracting exchanges have called for extension functions and the Organisation programmed extension activities in these fields. The export promotion and ancillary functions are now taking comprehensive extension look in so far as a variety of services will be made available to promote these fields of development.

The Organisation continuously augments its personnel in required trades and provides required facilities so as to deliver the service in right proportions and depth. The Organisation also continuously releases publications in the form of technical schemes, "Towards Better Techniques", survey reports, management studies and reports, etc. regularly, the details of which are given separately in the concerned sections discussing the particular programme of work.

SEMINAR ON DEVELOPMENT OF ANCILLARY INDUSTRIES

*Shri K. Balachandran, ICS, Additional Secretary, Ministry of I.D. & I.T. delivering the Presidential Address of the Seminar on the Development of Ancillary Industries*

In delivering the extension services the Organisation is in close liaison and often in collaboration with the various other specialised agencies, governmental as well as others in the country.

The organisations which participate in the small industry programmes at the Central level are the National Small Industries Corporation and the Small Industry Extension Training Institute. They form integral parts of the organisational spectrum and their functions have been elaborated in separate articles. The SSIDO however provides overall guidance to all the organisations and forms the kingpin of the programme.

**Basic Strategy**

The basic strategies underlying the institutional frame have been so devised as to keep in tune with the overall approach to planning adopted in India. It was the constant endeavour of the planners to make the industry participate in the sponsored programmes and thereby decide their destinies in keeping with national objectives. Hence at the Central level, the All India Small Scale Industries Board represents interests from industry organisations also.

*A view of an Industrial Extension Centre. Industrial Extension Centres are located all over the country at important places of concentration of particular types of small industries to be of direct assistance to these industries and to improve their methods of production*

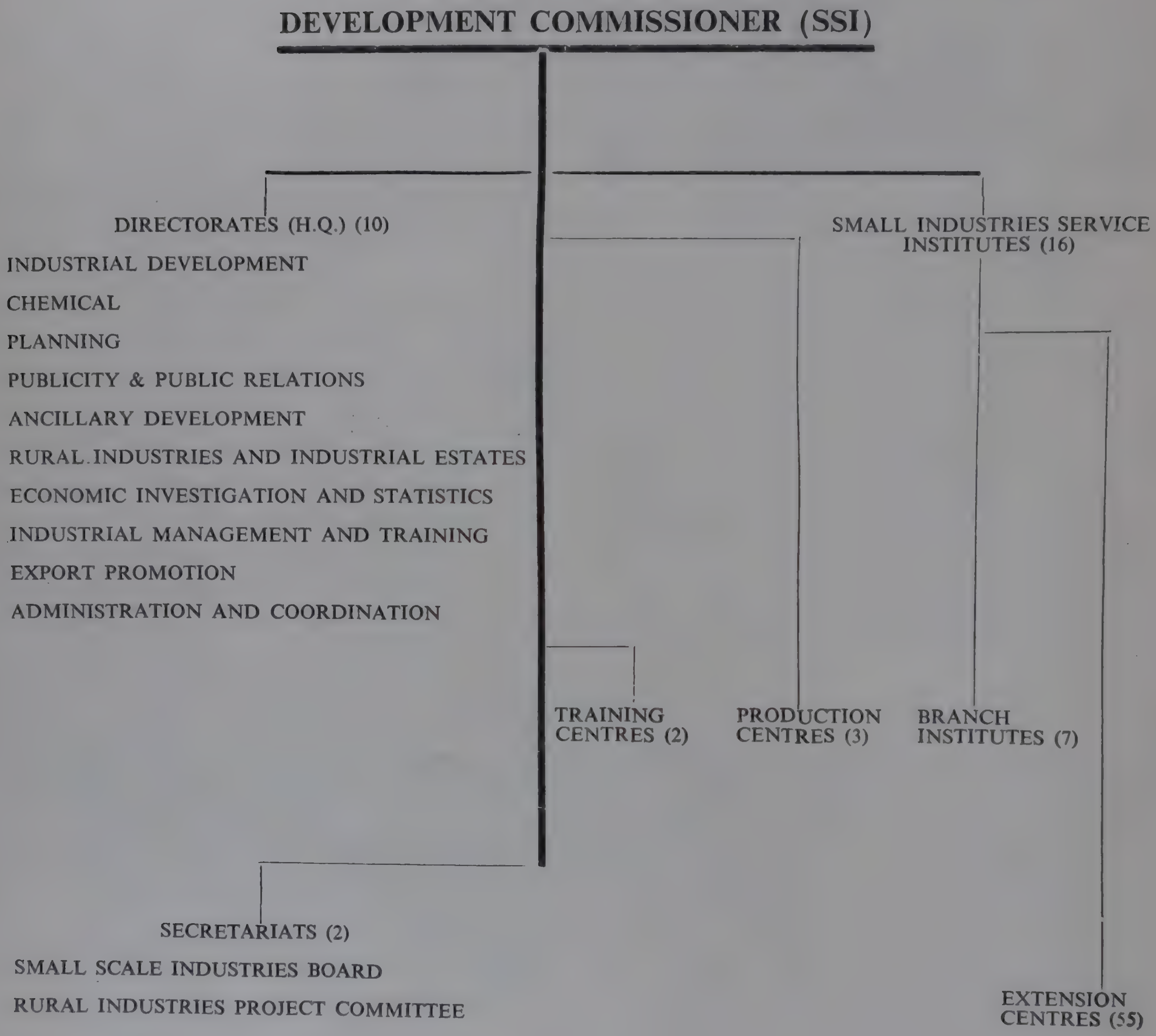
Wherever assistance to small industry could be identified and grouped for exclusive management, it has been the purpose to set up separate organisations i.e. autonomous corporations to handle these services. In the working of these autonomous corporations the industry organisations are closely associated. Thus at the State level there are State Directorates of Industries to implement the small industries development programme according to the approved policy objectives, the State Financial Corporations to look after long-term credit needs, Small Industries Development Corporations to look after marketing, raw material distribution, supply of machinery on hire-purchase basis, etc., Development Corporations exclusively to handle industrial estates and Investment Corporations to look after equity participation in capital and do underwriting. Even in the case of commercial banks, local committees consisting of various small industrial interests are often consulted in programmes and their implementations.

Various national organisations like the Small Industry Extension Training Institute, Council of Scientific and Industrial Research, State Trading Corporation, Minerals and Metals Trading Corporation, Indian Institute of Foreign Trade, Industrial Development Bank of India, Industrial Credit and Investment Corporation of India, Chief controller of Imports and Exports, etc. have programmes to assist small industry in respect of training, technical know-how, supply of imported and indigenous raw materials and machinery, export markets and the like.

At the Central level also there is a substantial demand for setting up separate organisations exclusively to handle credit needs and marketing. This strategy of development paid rich dividends as could be seen from the rapid progress of this industry sector in the last decade.

*Another view of the SSI Board in session*

# ORGANISATIONAL CHART I


DEVELOPMENT COMMISSIONER (SSI)
DIRECTORATES (H.Q.) (10)
INDUSTRIAL DEVELOPMENT
CHEMICAL
PLANNING
PUBLICITY & PUBLIC RELATIONS
ANCILLARY DEVELOPMENT
RURAL INDUSTRIES AND INDUSTRIAL ESTATES
ECONOMIC INVESTIGATION AND STATISTICS
INDUSTRIAL MANAGEMENT AND TRAINING
EXPORT PROMOTION
ADMINISTRATION AND COORDINATION
SMALL INDUSTRIES SERVICE INSTITUTES (16)
TRAINING CENTRES (2)
PRODUCTION CENTRES (3)
BRANCH INSTITUTES (7)
SECRETARIATS (2)
SMALL SCALE INDUSTRIES BOARD
RURAL INDUSTRIES PROJECT COMMITTEE
EXTENSION CENTRES (55)

# ORGANISATIONAL CHART II

## SMALL SCALE INDUSTRIES DEVELOPMENT ORGANISATION*

| HEAD QUARTERS OF SSIDO, NEW DELHI | | | | SMALL INDUSTRIES SERVICE INSTITUTES<br>PRODUCTION CENTRES/TRAINING CENTRES<br>BRANCH INSTITUTES/EXTENSION CENTRES |
|---|---|---|---|---|
| Development Commissioner | 1 | **1** | | |
| Joint Development Commissioner | 1 | **1** | | |
| Industrial Advisers | 2 | **2** | | |
| Directors | 8 | **25** | 17 | Directors |
| | | **2** | 2 | Industrial Designers |
| Joint Director (RIPC)† | 1 | **1** | | |
| Asstt. Secretary (RIPC) | 1 | **1** | | |
| Editor (RIPC) | 1 | **1** | | |
| Deputy Directors | 23 | **98** | 75 | Deputy Directors |
| | | **7** | 7 | Asstt. Industrial Designers |
| Asstt. Directors | 19 | **233** | 214 | Asstt. Directors |
| Asstt. Editors | 3 | **3** | | |
| Statistical Officer | 1 | **1** | | |
| Research Officers (RIPC) | 2 | **2** | | |
| Small Industry Promotion Officers | 38 | **331** | 293 | Small Industry Promotion Officers |
| Translators | 4 | **4** | | |
| Investigators | 13 | **136** | 123 | Investigators |
| TOTAL | 118 | **849** | 731 | |

## EXPERTISE OF SSIDO

| | | | |
|---|---|---|---|
| MECHANICAL ENGINEERING | 247 | ADMINISTRATION AND COORDINATION | 29‡ |
| ECONOMIC INVESTIGATION AND STATISTICS | 143 | METAL FINISHING | 14 |
| INDUSTRIAL MANAGEMENT AND TRAINING | 73 | FOOD INDUSTRIES | 10 |
| LEATHER AND LEATHER FOOTWEAR | 67 | INDUSTRIAL DESIGNING | 9 |
| CHEMICAL ENGINEERING | 63 | PUBLICATIONS | 7 |
| METALLURGY | 50 | EXPORT PROMOTION | 7 |
| GLASS AND CERAMICS | 39 | RURAL INDUSTRIES DEVELOPMENT | 7 |
| ELECTRICAL ENGINEERING | 38 | CIVIL ENGINEERING | 5 |
| ANCILLARY DEVELOPMENT | 38 | SPORTS GOODS | 3 |

849

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*The Staff position indicated here includes only Executive Personnel.

†Rural Industries Project Committee.

‡Up to the level of Assistant Director only.

# ROLE OF STATE DIRECTORATES OF INDUSTRIES IN THE DEVELOPMENT OF SMALL SCALE INDUSTRIES

THE development of small scale industries in India is primarily the responsibility of the State Governments. Although a number of schemes of assistance and programmes of development have been sponsored by the Central as well as State Governments to accelerate the pace of development of small scale industries, the role played by the State Directorates of Industries is of considerable significance. In fact, the successful implementation of the entire programme ultimately depends on the initiative, leadership and resourcefulness of the Directors of Industries. They not only coordinate and implement the various programmes relating to the development of small scale industries but also assist directly the small enterprises in their States and endeavour to remove the impediments in the way of their progress.

**Organizational Pattern**

The organizational pattern of the State Directorates of Industries is more or less uniform in all the States and its adequacy for the purpose of implementing the various programmes of development has been under review from time to time and modified whenever necessary to suit new needs and to function more effectively. The administrative set-up of the State Directorates of Industries existing in most of the States may be broadly described as follows:

The State Directorates of Industries are organised, in most cases, on a four-tier system, viz., (i) the headquarters, (ii) the zone, (iii) the district, and (iv) the block levels.

The Director of Industries, who is the head of the State Directorate, is assisted at the headquarters by a group of technical and administrative personnel. The Director is usually incharge of subjects relating to industries which include large scale industries, small scale industries, various other industries like handicrafts, handloom, sericulture, village industries, etc. In some States, the Directors of Industries are also responsible for such programmes as Industrial (Technical) Training, Weights and Measures, etc. In matters relating to the development of small scale industries he is assisted, in most cases, by an officer of the rank of an Additional Director with the necessary complementary staff. In most States, there is a nucleus of technical staff in different trades, like mechanical engineering, electrical engineering, ceramics, glass, etc., to assist the Director and Additional Director in their work.

In many States, for each zone consisting a few contiguous districts, an officer of the rank of Joint Director or Deputy Director is posted to coordinate the implementation of the entire work in those districts.

At the district level, an Assistant Director or a District Industries Officer is incharge of the programme, reporting directly to the Zonal Joint/Deputy Director. The DIO is assisted by a number of inspectors, depending upon the workload in the district, in the matter of registering, inspecting and assisting the small scale units.

*The development of small scale industries, though the primary responsibility of the State Government, depends on an integrated approach to their problems and collective and concerted efforts in solving them. Picture shows Shri Vasant Rao Uikey, Minister for Industries, Govt. of Madhya Pradesh speaking at a seminar jointly sponsored by the Small Industries Service Institute, Indore and the local unit of the All India Manufacturers' Organisations to discuss the problems of small scale industries*

At the Community Development Block level, an Extension Officer (Industries) functions in most of the States to explain to the local artisans the various programmes of assistance available to them, and assists them in organizing and managing industrial cooperatives, managing common facility workshops, etc.

The Extension Officers also locate local entrepreneurial skills and assist them in establishing new small scale units.

The work of the officers of the Directorates of Industries at all levels may, broadly, be divided into two categories, viz., (i) promotional and (ii) regulatory. The promotional functions include all assistance in setting up new units, while the regulatory measures include registration of small scale units, financing, distribution of scarce raw materials, implementation of quality marking and marketing schemes, running common facility centres, constructing industrial estates, etc.

Some of these functions are delegated by the Directors of Industries to the State Small Industries Development Corporations which have been established in most of the States to manage raw material depots, to set up industrial estates, to supply machinery on hire-purchase basis, to establish production units wherever desirable and feasible, to engage in marketing of small industry products (including exports), etc. There are separate autonomous corporations in some of the States, specialising in one or more of these functions. It may be mentioned here that Maharashtra State is a pioneer in setting up autonomous corporations with comprehensive functions to facilitate the rapid development of small industries in the State.

**Promotional Assistance**

Promotional assistance to new entrepreneurs includes all services rendered through the Industrial

*In the service of the Small Industries and Entrepreneurs: The Small Industries Service Institute in each State is a vital source of information and assistance to small enterprises. A view of the SISI Bombay*

Extension Service like survey of development potentialities of an area or of particular lines of production in the small scale sector, preparation of schemes, blue prints, appropriate designs, issue of technical literature, publicity, technical assistance, training in management practices and in technical trades, etc. This work is now undertaken by the SISIs and Industrial Extension Centres attached to them in each State functioning under the Small Scale Industries Development Organisation. However, in some States, the Directorates of Industries are gradually expanding their staff with appropriate personnel to be able to provide effective industrial extension service for the development of small scale industries in their States. In almost all States, the State Directorates have set up Common Facility Centres and in some cases, industrial research laboratories also, for the benefit of small industries.

**Regulatory Functions**

The regulatory functions performed by the Directorates of Industries are briefly explained as under:

*Registration:* Registration of small scale units is not compulsory. The small scale enterprises however are, in their own interest, required to register themselves with the respective State Directors of Industries. The units are registered on the basis of detailed information such as type of organisation, capital invested, workers employed and items of production; and are required to furnish necessary statistical information at regular intervals. A majority of the small scale units get themselves registered with the State Directorates of Industries since such registration helps them to apply for assistance rendered by different agencies, such as machinery on hire-purchase, import licence, financial assistance, etc. All enterprises engaged in the manufacture of any article mentioned in the First Schedule of the Industries (Development and Regulation) Act and employing 10 or more workers but not more than 49 workers are also required to submit quarterly returns to the State Directors of Industries. This enables the State Directorates of Industries to get an idea of the progress of different units in the State, and to meet their specific requirements of scarce indigenous and imported raw materials, imported machinery, spares and components, etc.

*Distribution of Machinery and Raw Materials:* The State Directors of Industries help the entrepreneurs to obtain licences for importing machinery, components and spare parts as well as machinery under the hire-purchase scheme of the National Small Industries Corporation. Only on the advice of the

Directors of Industries and the Essentiality Certificate issued by them, can small enterprises obtain such machinery through the National Small Industries Corporation Ltd.

Owing to the scarcity of foreign exchange, the allocation of imported raw materials is controlled. Such controls have also been imposed even in regard to those indigenous raw materials which are in short supply. After devaluation of the Indian Rupee, import of industrial raw materials has been liberalized to a great extent and many indigenously available raw materials have also been decontrolled. Nevertheless, a large number of such raw materials are still on the controlled list. The distribution of some raw materials to the small scale units has been routed through the State Trading Corporation and the Minerals & Metals Trading Corporation. In such cases, quota of such raw materials for different States is decided on the basis of number of units and their production capacity and the State Directors of Industries are entrusted with the distribution of the raw materials allocated to their respective States. The allotment of these raw materials is made on the basis of applications made by different enterprises to the Directors of Industries. These applications are scrutinized and the production capacity etc., assessed by the Directorates of Industries before allotment of canalised items is made.

In respect of items of machinery, equipment and raw materials required to be imported directly by the small enterprises, the Director of Industries scrutinizes their applications for such items and issues the Essentiality Certificates, stating the type and quantity of the equipment, machinery and raw materials to be imported to facilitate the effective execution of the production programmes of small enterprises. The enterprises submit their applications for grant of import licences to the Controller of Imports & Exports along with these Essentiallity Certificates. Thus, the Essentiality Certificate issued by the Directorates of Industries has a significant advantage of streamlining the imports of essential items consistent not only with the needs of small enterprises but also the objectives of promoting the development of particular industries in the State.

*Financing of Industries:* The State Directors of Industries also assist the enterprises in obtaining loans from various institutions set up for the purpose. One of the important measures by which finance to small industries is provided, has been the State Aid to Industries Act. Generally loans under this Act upto Rs. 1,000 are advanced on personal bonds and upto Rs. 5,000 against two personal sureties. Loans exceeding Rs. 5,000 are given against security or mortgage and upto 75% of the value of the security offered which may include land, building and machinery, equipment, stocks and other assets including those created out of loans, etc. The rate of interest charged on these loans has been kept considerably low at 2½% for loans upto Rs. 200,000 advanced to Industrial Cooperatives and 3% for loans upto Rs. 25,000 advanced to parties other than the Industrial Cooperatives. The repayment of loans is spread over a period of 10 years and can be made in easy instalments. These loans are normally granted by the State Directors of Industries, though, in some states, this power has been delegated to the District Industries Officers or the District Magistrates for distributing loans upto Rs. 2,000. In some States (as for example in Tamil Nadu) the officers of the State Directorate of Industries also assist small enterprises which apply for short-term finance to the State Bank of India under the liberalised scheme of credit assistance by furnishing the Bank with technical assessment reports on such enterprises.

*Industrial Estates:* The State Directors of Industries are responsible for the construction of industrial estates, with necessary facilities and allotment of sheds to small scale enterprises. The main objective of the programme of industrial estates is to promote development of small scale industries through the provision of factory sheds (built according to acceptable specifications) and to facilitate the industrialisation of economically backward and rural areas by strengthening the infra-structure. The basic merit of an industrial estate lies in the fact that it provides congenial factory accommodation at convenient locations along with the facilities of water, electricity, transport, banks, post office, canteen, first aid, etc. Besides these, common service facilities such as tool rooms, forging shops, foundry, electroplating, heat treatment, etc. are also provided in a number of estates. 505 industrial estates have been sponsored all over the country during the last 14 years, out of which 404 industrial estates have been constructed. In 303 industrial estates, 5,413 factories are functioning.

The implementation of the industrial estates programmes rests with the State Government and the Central Government provides financial support. The State Directorates of Industries are responsible for selection of sites, acquisition of land, lay-out planning, construction of sheds, provision of facilities and amenities and finally management of the estates. The amount spent on the Industrial Estates Programme during the last 14 years is Rs. 420 million.

*Dr. T.G.K. Charlu, Director of Industries, Government of Uttar Pradesh who inaugurated the specialised Course in Industrial Entrepreneurship organised by the SISI Kanpur, speaking to the participants*

In order to avoid infructuous expenditure, State Governments have been directed to carry out detailed techno-economic studies to determine the location, type and size of industrial estates before launching on the construction of new industrial estates.

Since it takes considerable time to finalise the construction of industrial estates and since conventional industrial sheds do not meet the requirements of new industries, State Directorates are now-a-days acquiring lands at convenient locations and developing them and providing basic facilities for allotment as "developed plots" to small enterprises, leaving the construction of sheds to the industrialists to suit their particular needs.

Another shift in emphasis in the industrial estates programme is the construction of Functional Industrial Estates to encourge the development of particular types of small industries. Sophisticated types of common service facilities and Testing and Quality Marking facilities are provided within the campus of the estate so as to ensure efficient production of quality products. The production of various nits in such industrial estates are usually interlinked, ach unit specialising in a particular product, compo-ent or process. For example, manufacture of leather oods, electrical goods and ceramic wares is carried on in Functional Industrial Estates in Tamil Nadu.

The State Directorates of Industries are also actively encouraging the establishment of Coopera-ive Industrial Estates and Private Industrial Estates in order to promote rapid industrial development by fulfilling the aspirations of a group of entrepreneurs. Here again the role of Tamil Nadu Government deserves mention.

*Quality Marking and Marketing :* The Directors of Industries assist the small scale enterprises in marketing their products. They make the industrialists quality-conscious by introducing schemes for standardization, testing and quality marking. It needs hardly be emphasised that standardization of products and quality marking would greatly enhance the value of various products and hence their marketability. So far, the operation of the scheme was limited to those manufacturers who voluntarily agree to abide by the specifications and standards laid down by the State Directors of Industries. The U.P. State Director of Industries has even introduced a scheme for the prevention of the infringement of trade marks and sales of spurious goods.

The State Directors of Industries also help the small scale industries in marketing research. They have also set up sales emporia where the products of small scale enterprises, particularly the handicrafts, are displayed. The State Directors of Industries also participate in exhibitions organized at district, State and all India levels to publicise the products of small scale units with a view to promoting their sales. A few State Directors of Industries have also set up Export Promotion Cells in their States.

## Conclusion

The State Directors of Industries promote industrial development in their States in many ways. They register the new enterprises, issue Essentiality Certificates for imports, procure machinery and raw materials to small enterprises under various programmes of assistance and also help them in marketing their products. In fact, the small industrialists in the States look up to the Directorates of Industries for useful and proper guidance and effective and timely assistance.

# NATIONAL SMALL INDUSTRIES CORPORATION

## ASSISTANCE & ACHIEVEMENTS

SMALL Scale Industries, whether in developed countries like U.S.A. and Japan or in developing countries of Asia and Africa, have acquired a significant place in the respective national economies. Whereas in the industrially advanced countries, the development of small industries was more or less a natural process of industrial evolution, the developing countries have, in recognition of the important role that small industries could play in economic development, deliberately planned to promote their growth through suitable programmes of assistance and by adopting appropriate policies designed to protect their interests. The plans for the development of small industries in India were based on the recommendations of the International Planning Team of the Ford Foundation who submitted their "Report on Small Industries in India" in March, 1954.

The establishment of the National Small Industries Corporation Ltd., in 1955 as a Government of India concern is based on the recommendation of the Ford Foundation Team which reads as follows:

"We recommend the establishment by the Centre with branches in the States or Regions of a Corporation devoted to the servicing of small industry in the field of government indents in all its purchases from industry. The Government and its departments, Corporations and other subsidiaries and their branches and dependencies are a source of very large amount of business of every type and description, business which can, to a large extent, be served by small industry either directly or through the medium of sub-contracting." Thus the original and primary function of the National Small Industries Corporation therefore, was mainly to help small enterprises to manufacture and supply a wide variety of stores purchased by the largest single buyer— the Government of India. Since the growth of small enterprises in an organised manner demanded certain facilities and services which no other agency could provide, the NSIC was called upon to provide these and therefore it had to take up such functions as supply of machinery and equipment on Hire-Purchase basis, marketing (including exports) of specific small industry products of acceptable quality, distribution of scarce raw materials and imported components (though in a limited way) and the running of Prototype Production-cum-Training Centres to develop prototypes of certain machinery and incidentally give training to workers in various technical trades.

### Government Stores Purchase Programme

The Government Stores Purchase Programme of the NSIC Ltd. was started in 1957-58 and has grown into one of its major activities over the years. Having started with the supply of only 74 items of stores, small enterprises today supply more than 1000 items of stores. Constant efforts are made by the NSIC to sponsor new items of stores for supply to the Government and also to seek reservation of certain items for exclusive purchase from the small scale sector of industry. At present 166 items are reserved for procurement exclusively from the small scale sector.

It is interesting to note that various other Central Government departments and autonomous bodies, like Indian Railways, Post and Telegraphs, Ordnance Factories, DGAFMS, Road Transport Undertakings etc., have introduced schemes similar to those of the Directorate General of Supplies & Disposals for making direct purchases of their requirements from small enterprises.

Small enterprises participating in the Central Government Stores Purchase Programme are registered with the NSIC and are eligible to avail themselves of the following concessions:—

a. Tender sets of the DGS&D are available to them free of cost from the NSIC and its regional offices;
b. Waival of the payment of security deposit on the issue of "competency certificate" by the NSIC if the prices quoted by the small scale units are acceptable to the DGS&D; and
c. Price preference upto 15% as against price quotations for similar products of large scale units, provided that the stores supplied conform to the specifications and quality required.

There are 19,032 small enterprises registered with the NSIC. The Progress of the Government Stores Purchase Programme is indicated in the following Table:

| Year | Tenders Processed | No. of contracts secured | Value (Rs. million) |
|---|---|---|---|
| 31-3-57 | 108 | 10 | 0.587 |
| 1957-58 | 580 | 113 | 6.215 |
| 1958-59 | 1766 | 707 | 25.612 |
| 1959-60 | 2025 | 984 | 26.481 |
| 1960-61 | 2388 | 1427 | 38.810 |
| 1961-62 | 2395 | 1921 | 79.377 |
| 1962-63 | 2777 | 2065 | 145.158 |
| 1963-64 | 2344 | 3995 | 341.843 |
| 1964-65 | 2497 | 3512 | 173.134 |
| 1965-66 | 3135 | 3285 | 200.692 |
| 1966-67 | 3213 | 3000 | 205.000 |
| 1967-68 | 3196 | 1786 | 191.616 |
| 1968-69 | 3119 | 1479 | 177.426 |
| 1969-70 | 3411 | 2054 | 208.600 |

### Hire Purchase of Machinery

Perhaps the most direct, useful and effective assistance rendered by the NSIC to small enterprises, is the facility of hire-purchase of machinery. The small enterprises which availed themselves of this type of credit facility had the advantage of procuring the latest machinery and equipment of either indigenous or foreign make and of paying for them in half-yearly instalments spread over a period of seven years. This facility of hire-purchase of machinery enabled many existing small industrialists to modernise and expand their production and encouraged a number of entrepreneurs all over the country to set up small enterprises for the manufacture of a wide range of new products including several items which have been effective substitutes for imports. Important among the items being manufactured are automobile accessories and components, bicycles and parts, clocks and time pieces, hospital requisites made of stainless steel, surgical instruments, scientific instruments, sewing machines, plastic moulded goods, electric cables and wires, electrical accessories, electronic equipment, machine tools etc. Many small scale units have also been able to manufacture several items for export, as for example, hardware items, industrial accessories like air compressors, internal combustion engines, electric motors and dynamos, dressing tools, aluminium conductors, electric transformers, electrical accessories and cables, processed foods and fruit products, sports goods, woollen hosiery, spectacle frames, finished leathers, leather goods and footwear, radios and amplifiers, pharmaceutical products, cosmetics etc. to mention only a few.

The NSIC has so far supplied machinery and equipment worth about Rs. 402 million to about 10,000 small enterprises which provided employment to about 150,000 persons.

### Marketing

While providing marketing assistance to small scale industries, the NSIC did not intend or attempt to displace the existing channels of marketing of small industry products however imperfect they were. Marketing assistance was therefore meant to be only an educative and developmental measure supplemented by such services as designing, standardization of quality and introducing measures that would gradually reorient modes of marketing. The NSIC formulated various schemes to assist small enterprises in marketing their products. Mobile vans were put into operation in various regions to transport and sell in retail leather footwear, cotton hosiery, glass beads, pottery etc. Mobile Vans incidentally facilitated the conduct of market research for specific small industry products and also helped in popularising them in the interior and remote areas. As a result of the market research, shortcomings arising from the lack of standardization, lack of trade or brand names which restricted the size of the market for small industry products, were removed. Wholesale depots were set up to encourage the production of standardised goods of acceptable quality such as leather footwear, locks, cotton hosiery, paints, varnishes, pottery and glass beads. A brand name was also given to these products which conformed to the specifications laid down by the wholesale depots.

A significant achievement of the marketing assistance programme of the NSIC was the export of leather footwear which helped in the complete rehabilitation of the indigenous cottage and small industries engaged in the production of leather footwear. Between the years 1956 and 1965, 1.61 million pairs of shoes valued at Rs. 50 million were exported by the NSIC to USSR, Poland and East Germany in the face of stiff competition from private indentors and large scale suppliers.

### Distribution of Raw Materials

The chronic problem of shortage of raw materials and components has been tackled by the NSIC to a limited extent especially where bulk purchase and distribution can be of assistance.

A raw material depot of the NSIC for the distribution of iron and steel was functioning at Ludhiana for many years till it was transferred to the State Government. The raw material depot at Okhla, New Delhi caters to the needs of small industries in and around Delhi and distributes scarce raw materials (both imported and indigenous) like copper, zinc, lead, tin, G.P. sheets, C.R. sheets etc. on the basis of permits of allocation issued by the Director of Industries. Besides the above, the NSIC has taken *ad-hoc* measures to relieve the difficulties of small enterprises in the Bicycle Industry and Hosiery Industry by importing their requirements of cycle components and hosiery needles. Radio valves, transistors, ferrite rods made in India are also procured in bulk by the NSIC for distribution to small enterprises assembling radios and transistors at the same prices at which large assemblers get them from the manufacturers. The value of raw materials and components supplied by the NSIC so far is about Rs. 80 million. A step in the right direction is that in many States the Governments have set up Small Industries Corporations many of which have, *inter alia*, the procurement and distribution of scarce raw materials as one of their functions for the promotion of small scale industries.

### Prototype Production-cum-Training Centres

The programmes for the development of small scale industries have laid great emphasis on the training of industrial labour and modernisation of the techniques of production by introducing modern machines. A special study Team was appointed to study and to recommend appropriate measures to achieve these objectives. The team recommended that Prototype Production-cum-Training Centres could be set up by the NSIC with foreign collaboration having the following objectives:

(i) to design, develop and produce prototypes of machines and pass them on to the small industries for manufacture on commercial lines;

(ii) to provide intensive training facilities for skilled workers and shop-floor supervisory personnel drawn from the small scale units spread all over the country; and

(iii) to provide common facilities and technical services to small scale units in production techniques, processes etc.

Detailed proposals and offers were received by the NSIC from the Governments of United States of America, Federal Republic of Germany and Japan respectively to set up such centres in India. The first Prototype Production-cum-Training centre was set up at Rajkot with American Aid and technical assistance. Subsequently two more such centres were established at Okhla (New Delhi) and at Howrah (Calcutta) with the aid of West German and Japanese Governments respectively.

So far 3,309 trainees have undergone specialised training in 24 trades for periods ranging from 3 months to 3 years and they have turned out 20 prototypes of machines for production in the small scale sector. The type of intensive training given at the PTC is unique for it provides an opportunity to every trainee to take part in the most modern methods of production and to acquire at the same time sound theoretical knowledge of various processes and production techniques. The trainees are generally provided hostel accommodation and are paid stipends for the duration of their training at the centre. The PTCs produce highly sophisticated machinery and account for an annual production of Rs. 4.0 million.

The NSIC Ltd. has thus played a very useful, effective and significant role in the development of small scale industries in India.

# SMALL INDUSTRY EXTENSION TRAINING INSTITUTE SERVES ASIA

INDUSTRIAL promoters from the developing countries of three continents gather every year in India to participate in a unique international programme on Small Industry Promotion in Developing Economies (SIPDE). They meet at the Small Industry Extension Training Institute, located in a suburb of Hyderabad.

For many years now, India has built up experience in small industry planning and promotion. And, it is precisely to share this experience that the SIET Institute evolved its SIPDE Programme.

Many factors make SIET Institute the appropriate agency for running such a programme. When the Institute was set up in 1962, its primary aim was to train officers of the Government of India who are engaged in administering its industrial programmes. SIET Institute gives them training in management, methods of regional development and human relations in industry. To this is added training in extension and communication techniques for disseminating information to people at different levels. Moreover, SIET designs prototype training courses for adoption by various industrial training organisations in the country.

SIET Institute's role in international development stretches back to a period even before SIPDE took shape in 1966. From its inception, SIET Institute was admitting industrial officers from Thailand, Ceylon, Iran, Tanzania and Nepal to its regular courses in Industrial Management. Now, within ten years, the Institute is geared to run three major international courses every year.

In its green years, SIET Institute was nurtured with liberal assistance from the Ford Foundation. Grants for books, laboratory equipment and the training of faculty abroad along with the services of short and long term consultants had a positive impact on the growth of the Institute. With this backing, SIET Institute swiftly built up its training skills, striking at the same time strong roots into the field of original research.

The success of SIPDE did much to enlarge the Institute's foreign clientele. On request, SIET Institute tailored short term courses for international groups. In December, 1968, SIET Institute conducted the final phase of In-Plant Study for a course run by the Asian Productivity Council, Japan. SIET Institute had yet another chance to prove its specialisation in management skills. In 1969, the American Peace Corps Organisation asked SIET Institute to

*Eminent Japanese Professors going round the Institute*

*Participants from U.A.R. working on a Joint Report*

train its volunteers for Indian Small Industry development.

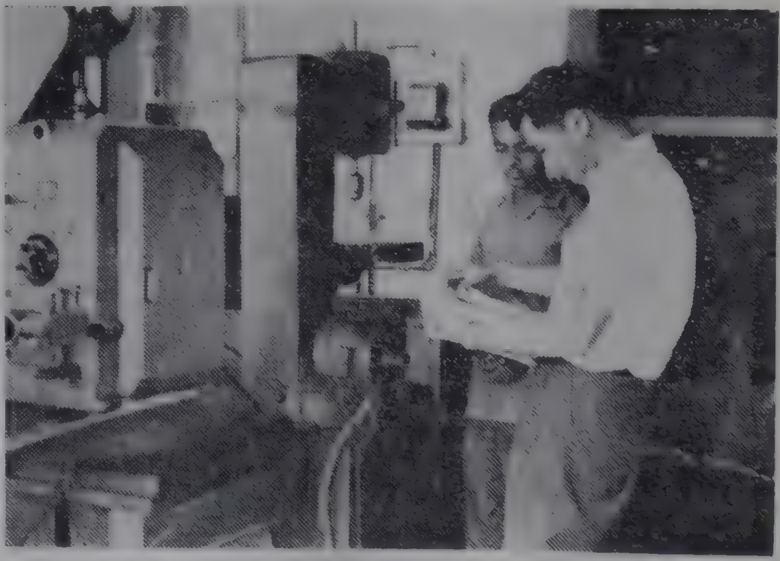
SIET Institute broke new ground in 1970 when it pioneered a group training programme for UNIDO officers from Africa, Asia and Europe. It is very likely that the Institute will soon be repeating the last two programmes. Its national image was also enhanced when it initiated a course for bank officers on the "Effective Financing of Small Industry".

**Organisation**

The academic body of the Institute is organised into four departments: Management, Development, Extension Education and Documentation, each headed by a Director. There is also a printing and publishing unit which functions as a Service Department. The administrative and financial affairs of the Institute are directed by the Secretary, the Assistant Registrar and the Accounts Officer, with their complement of staff. The entire staff of the institute is governed by the Principal Director, Shri P.D. Malgavkar. Shri Malgavkar is guided by a Governing Council, appointed by the Government of India. The Chairman of the council is Shri S.K. Balachandran, Additional Secretary, Department of Industrial Development, in the Ministry of Industrial Development and Internal Trade. The Vice-Chairman is Shri K.L. Nanjappa, Development Commissioner (Small Scale Industries), New Delhi. The other eleven members of the Council are drawn from the Ministry of Education, the Planning Commission, Directorates of Industries from the State Governments and representatives of small industries.

The Institute originated as a department of the Ministry and later changed into an autonomous organisation. This change has given it a greater flexibility in the execution of the duties.

*A Korean Participant doing Inplant Study*



*Malaysian participants presenting a Report*

### Finances

SIET Institute is financed by its founder, the Government of India. The fees charged for the courses help to recover the expenses of boarding and lodging of the participants. The Government of Andhra Pradesh have provided land and buildings.

### Hostel

Participants are consistently urged to reside on the campus for getting the fullest benefit from the courses. The hostel can accommodate sixty persons in the furnished single and double room suites. A section has been specially prepared for the foreign visitors. The departmental canteen which serves the hostel is staffed to provide both Indian and Western cuisine.

Plans are being made at SIET Institute for the construction of an international centre with all amenities.

### Service Facilities

SIET Institute has a specialised library which is kept open round the clock. There are over 180 journals in the reading room. The communications library has a good number of training films and filmstrips which are loaned out under special rules.

*Participants from Asian Productivity Organisation doing Inplant Study arranged by SIET Institute*

*A Thai lady-participant talking to an Indian dignitary*

### SIET Institute's Faculty

The twenty-five faculty members of SIET Institute constitute a strong versatile team representing diverse areas of learning. It follows, naturally, that the faculty exerts a liberal influence in the selection of course contents and materials. Moreover, the interactions of diverse disciplines help to structure the course on a broad base. Training is given in many ways through discussions and by field work under faculty supervision. The lecture method is sparingly adopted and is often supplemented with audio-visual aids. Methods commonly used are case discussion, role playing, business games and syndicate discussions. These are effective in ensuring contributions from the participants who have had varied experiences in the same field. Faculty development programmes have also helped to maintain a high level of training at SIET Institute.

### The Role of SIET Institute

The Institute shapes the growth of small industry in the country at three levels namely training, research and service. Training, bolstered by research, is given to small industry personnel in the non-technical areas of management, developmental economics and human relations. The outcome of this approach is a highly realistic and practical course schedule which is often adapted by other trainers. The Institute's service activities are multi-channelled. Its service facilities are made available to other training institutes. A national documentation centre for information on small industry will soon be functioning in the Institute. The Institute also conducts workshops, seminars, and discussions on current issues that have a bearing on small industry.

### Research

SIET Institute conducts research not merely on its own for strengthening its training but also in collaboration with foreign agencies on specific programmes. The enquiries conducted to meet its own needs are regularly published in the Institute's journal—SIET STUDIES—or as monographs.

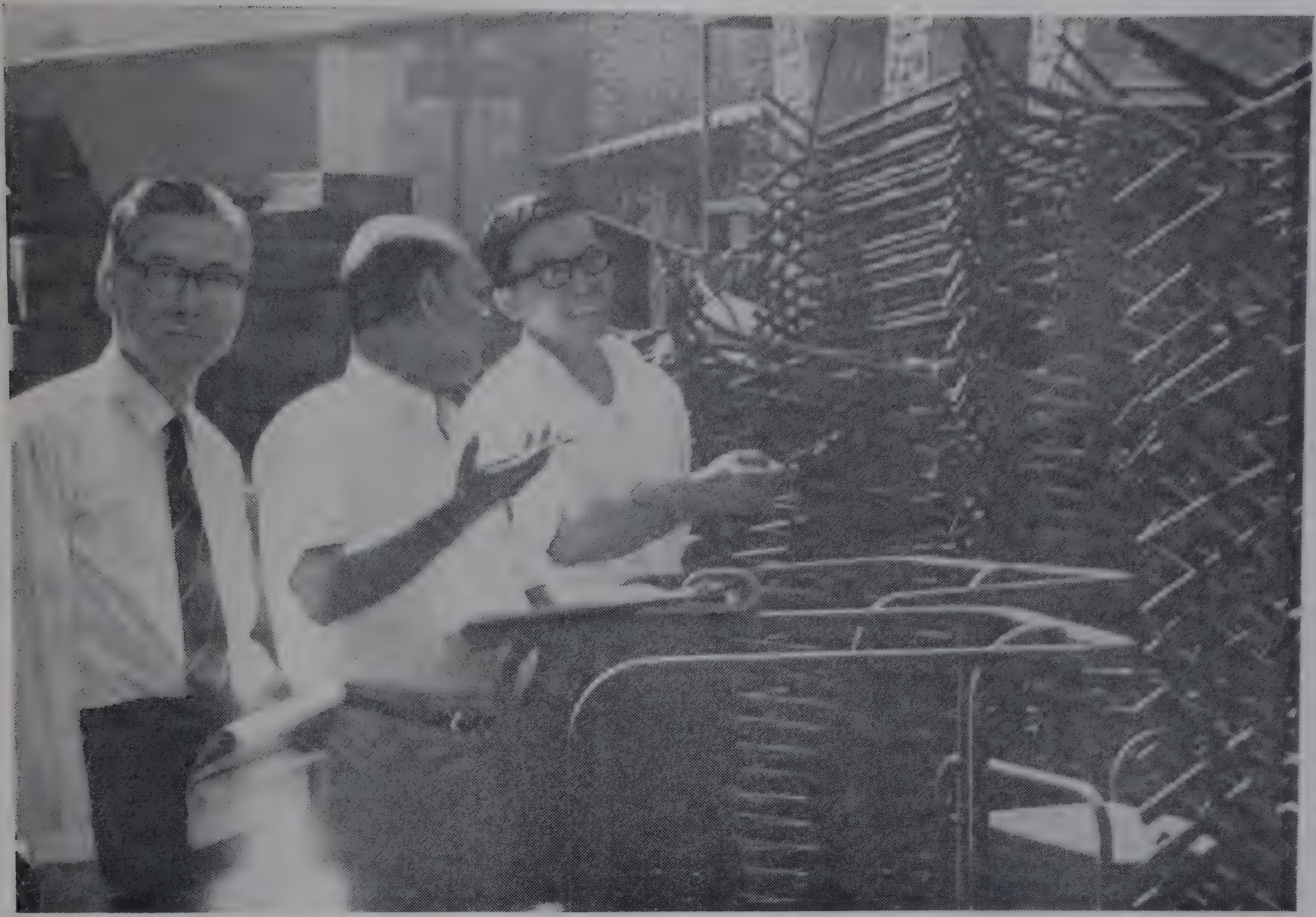
The Institute has conducted research in the areas of entrepreneurial motivation and economic growth—dynamics of development in a region and appropriate technologies for industries.

Faculty members have also prepared many cases and case studies in organisational management.

### Publications

Two regular publications of the Institute are its journal, SIET STUDIES, which appears three times a year and the quarterly NEWSLETTER. A selected list of SIET publications is given at page 358.

*Participants to an International Course at a picnic*



*A Factory Visit*

**Programmes specially Tailored to Meet the Requirements of Foreign Participants**

(1) *Small Industry Promotion in Developing Economies*

The Institute has, so far, conducted four courses on Small Industry Promotion in Developing Economies. This course is essentially designed for civil servants from developing countries. Many of the participants are sponsored by well-known organisations such as the Special Commonwealth African Assistance Programme, Afro-Asian Rural Reconstruction Organisation, Columbo Plan and the Ford Foundation. They learn the process of industrialisation, identification of industrial opportunities, formulation of small industry development policies and programmes suited to the needs and situations of their respective countries, problems of implementing the policies and programmes, communicating new ideas to prospective entrepreneurs, conducting feasibility studies, etc. Visits to the centres of small scale industries, headquarters of various institutions and agencies connected with small scale industries and the industrial belts of small scale units form an integral part of the course. So far, 105 foreign participants have attended this course.

(2) *Training Methods and Skills Course*

This course was offered to foreign participants for the first time in 1970. The course aimed at providing opportunities for the participants to get an understanding of the process of training and an insight into the trainer's role in working with groups and acquire the skills necessary to use a variety of sophisticated modern training methods.

(3) *Small Industry Management Consultancy Course*

Since the inception of the Institute, national courses have been developed to train Indian officers in small industry consultancy. Based on the experience acquired so far, an international programme of training on Small Industry Management Consultancy is proposed to be conducted between 6th September and 11th December 1971. This course is designed to equip the participant with the capacity to function as a management consultant by improving his acquaintance with different topics in management methods and techniques of analysis, and by providing him with actual experience in management consultancy work.

The Institute conducts regularly a number of courses on Industrial Management, Small Industry Development and Promotion, Feasibility Survey and Analysis, Industrial Planning Programming, Laboratory for Executive Development, Personnel and Organisational Development, Training for Young Engineers, Materials Management, Marketing and Exports, Production Management, Financial Management. A number of seminars and workshops are organised at regular intervals.

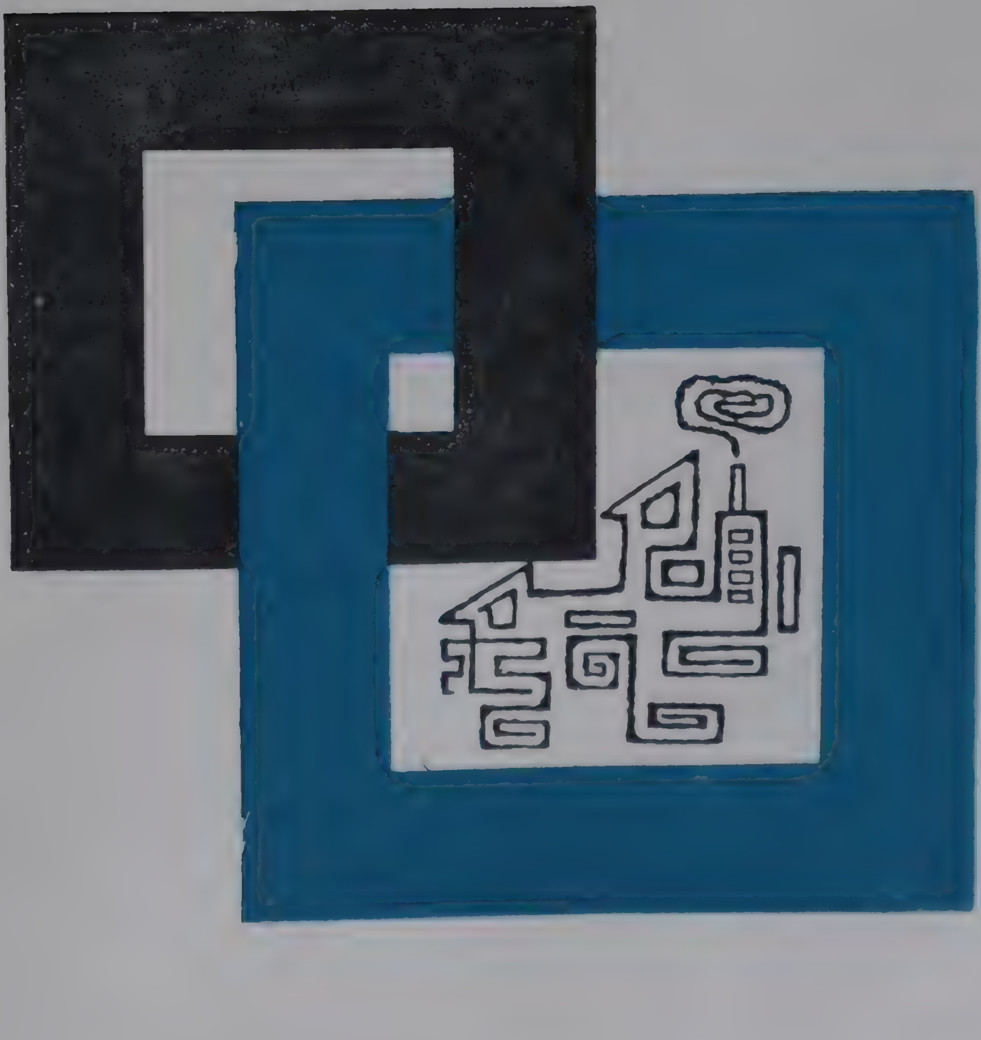
### SIET's PUBLICATIONS TILL AUGUST 1970

1. Industrial Estates in India, P.C. Alexander, 1963, Rs. 10/-.
2. Industrialisation Beyond the Metropolis—A New Look, R.P. Lynton and J.E. Stepanek, 1963.
3. Industrialisation Beyond the Metropolis—Current Developments, R.P. Lynton, J.E. Stepanek and B.S. Venkata Rao, 1964.
4. Agents for Industrial Development, R.P. Lynton and Udai Pareek 1964, Rs. 12/-.
5. Appropriate Technologies for Indian Industry, Papers of a Seminar, 1964, Rs. 3/-.
6. Dynamics of District Development, G.F. Mcrobie and V.K. Chebbi, 1964.
7. Costs of Urban Infrastructure of Industry as related to city size in developing countries: India—a case study, 1968—A research project undertaken in collaboration with the Stanford Research Institute and the School of Planning and Architecture, 1968.
8. Nagarjunasagar Industrial Potential, Verghese Eapen and D. Nagaiya, 1968, Rs. 10/-.
9. Feasibility Study for Manufacturing Rice Bran Oil in Mandya District, 1966, P. Subba Rao and V.K. Chebbi.
10. The Study of the Multi-purpose Ryots Cooperative Society of Mandya, 1966, D. Nagaiya.
11. Case Studies of Industrial Cooperatives: Conducted by Dr. M.N. Jakate and D. Nagaiya.
    (i) Tirupathi Brass and Copper Worker's Industrial Cooperative Society, Tirupathi, June 1967.
    (ii) Asifnagar Family Welfare Match Industrial Cooperative Society, Hyderabad, December 1967.
    (iii) Ex-Servicemen's Karad Cooperative Workshop, Karad Satara district (Maharashtra) June 1969.
    (iv) Aluminium Workers Cooperative Factory, Rajahmundry (Andhra Pradesh), June 1969.
    (v) Thiruvallom Pachlloor Coir Industrial Cooperative Society, Trivandrum (Kerala), September 1969, and
    (vi) The Swadeshi Hosiery Cooperative Society Limited, Ludhiana (Punjab), September 1969 conducted by Dr. Jakate and V.R.N. Sharma.
12. Guidelines for Successful Interviewing—A Handbook for Formal Face-to-Face Meetings, June 1968 (Rs. 3.50), Dr. K.J. Christopher & Capt. John Waters.
13. SIET STUDIES 1966 Spring Monsoon Winter
    1967 Spring Monsoon Winter
    1968 Spring Monsoon Winter
    1969 Spring Monsoon Winter

# SMALL INDUSTRY PROFILES

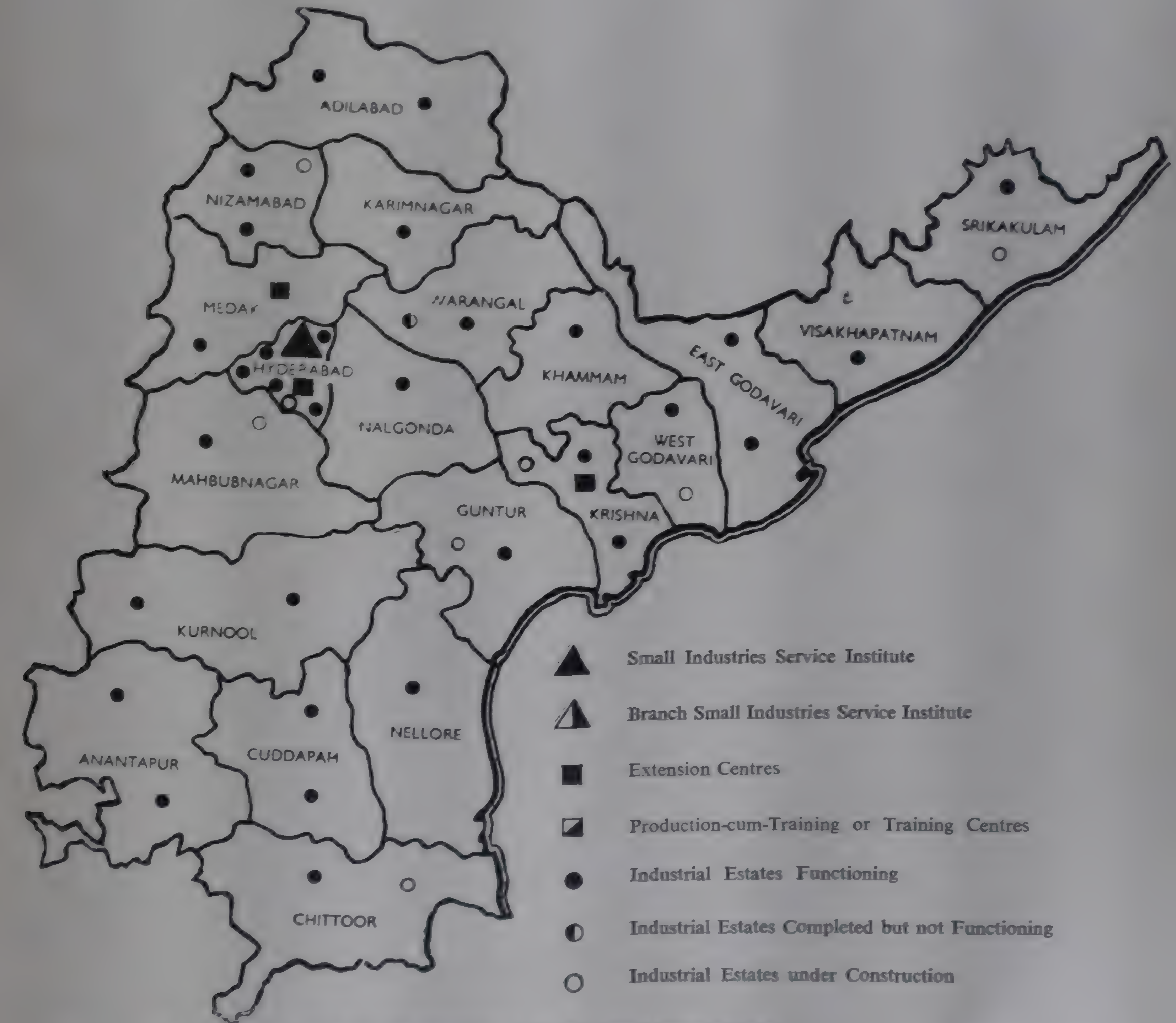
STATES/UNION TERRITORIES OF INDIA

OTHER COUNTRIES



# ANDHRA PRADESH

ANDHRA PRADESH with an area of 274,674 square Kms. and a population of about 36 million is the fifth largest and fourth most populous State in the Indian Union. It has three regions, viz., (1) Telangana, (2) Coastal Region, and (3) Rayalseema. On the eastern side of the State lies sprawling coast-line of nearly 1,000 Kms. having a chain of 10 ports including the famous Visakhapatnam (Vizag) harbour. The coast-line is a vast stretch of fertile land producing huge quantities of paddy, sugarcane, pulses and other


ADILABAD
NIZAMABAD
KARIMNAGAR
MEDAK
WARANGAL
HYDERABAD
KHAMMAM
NALGONDA
MAHBUBNAGAR
SRIKAKULAM
VISAKHAPATNAM
EAST GODAVARI
WEST GODAVARI
KRISHNA
GUNTUR
KURNOOL
ANANTAPUR
CUDDAPAH
NELLORE
CHITTOOR
▲ Small Industries Service Institute
△ Branch Small Industries Service Institute
■ Extension Centres
◪ Production-cum-Training or Training Centres
● Industrial Estates Functioning
◐ Industrial Estates Completed but not Functioning
○ Industrial Estates under Construction

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The territorial waters of India extend into the sea to a distance of twelve nautical miles measured from the appropriate base line.

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*A view of Small Industries Service Institute, Hyderabad (A.P.)*

agricultural products. The State is no doubt endowed with rich mineral and other resources, yet its economic growth has all the characteristics of an under-developed area with accent on conventional agricultural and allied occupations.

Till the end of the First Five Year Plan, the industrial structure of the State consisted mainly of processing industries like rice mills, ginning and pressing factories and sugar mills. A modest beginning of economic development was made during the First Five Year Plan by establishing Hindustan Ship Building Yard at Visakhapatnam. During the Second and Third Five Year Plans, a firm base for industrialisation was established. There has also been considerable diversification and extension of industrial structure as a number of major industries, in the public and private sectors, have come to be established in the State during this period.

To accelerate and promote the growth of industries in a planned manner, the State Government has set up three development corporations, viz., Andhra Pradesh Industrial Development Corporation for major industries, Andhra Pradesh Mineral Development Corporation for exploiting the mineral resources of the State, and Andhra Pradesh Small Scale Industrial Development Corporation for small scale industries, which has opened six Raw Material Servicing Centres at Sanatnagar, Warangal, Samalkot, Vijayawada, Visakhapatnam and Cuddapah. These Centres have been procuring and distributing scarce raw materials, including ferrous and non-ferrous metals, to the small scale units.

**Small Scale Sector**

Andhra Pradesh is making rapid progress in the field of small scale industries. The number of small scale industries as on 30-6-1969 is 10,572 as against 2,346 in 1961. The number of small scale units are

*The SSIDO endeavours to keep abreast of the latest technical developments. The picture shows the Additional Secretary in the Ministry of I.D. & I.T. Shri K. Balachandran and Shri K.L. Nanjappa, Development Commissioner SSI visiting a research project on the role of electronic computer in management decisions in the small industries conducted by the SISI, Hyderabad.*

increasing steadily from year to year, as is evident from the table below.

| *As on* | *No. of registered small scale enterprises* |
|---|---|
| 31-3-61 | 2,346 |
| 31-3-62 | 2,760 |
| 31-3-63 | 3,255 |
| 31-3-64 | 3,664 |
| 31-3-65 | 4,114 |
| 31-3-66 | 5,007 |
| 31-3-67 | 6,176 |
| 30-6-69 | 10,572 |

It may be observed from the above table that during 1961-69 there has been nearly five fold increase in the number of units registered with the Directorate of Industries.

The growth of small industries has not been evenly spread throughout the State. From an analysis of the regional distribution of the units, it is clear that there are distinct regional disparities in the development of industries. According to the census of small industries (1969), conducted by the Director of Industries and Commerce, Andhra Pradesh, the dispersal of small scale units is given in table below:

| *Region* | *No. of small units* | *Employment* | *Actual output (Rs. Million)* |
|---|---|---|---|
| Telangana | 2,784 | 26,743 | 167.27 |
| Coastal Region | 2,957 | 36,834 | 420.77 |
| Rayalseema | 877 | 12,364 | 97.01 |
| Total | 6,618 | 75,941 | 685.05 |

It is, clear that where the small industries sector in Andhra Pradesh is concerned, Rayalaseema region has been much behind in industrialisation. The number of registered units in various districts of the State upto 30th June 1969 is given in the following table:

| *Region* | *Districts* | *No. of units* |
|---|---|---|
| Telangana | 1. Hyderabad | 1,145 |
| | 2. Warangal | 183 |
| | 3. Karimnagar | 316 |
| | 4. Khammam | 128 |
| | 5. Mehboobnagar | 136 |
| | 6. Nizamabad | 270 |
| | 7. Medak | 141 |
| | 8. Nalgonda | 312 |
| | 9. Adilabad | 113 |
| Coastal Region | 10. East Godavari | 1,137 |
| | 11. Krishna | 1,568 |
| | 12. Guntur | 1,570 |
| | 13. West Godavari | 464 |
| | 14. Nellore | 443 |
| | 15. Visakhapatnam | 484 |
| | 16. Srikakulam | 304 |
| Rayalaseema | 17. Cuddapah | 452 |
| | 18. Chittoor | 603 |
| | 19. Ananthapur | 505 |
| | 20. Kurnool | 304 |

**Output and Employment**

In 1966-67, industrial sector in Andhra Pradesh contributed 9.29 per cent towards the State's income. Statistics in respect of the capital investment in machinery and equipment, employment generated and production capacity pertaining to the small scale sector upto June 1969 were Rs. 287.6 million, 142,000 persons employed and Rs. 1624 million respectively.

*Shri M.R. Krishna, Deputy Minister for ID & IT inspecting some developmental work undertaken by the Extension Centre of SISI, Sanatnagar (Andhra Pradesh)*

Small industries have made notable progress in a number of industries such as automobile parts including automobile leaf springs, fuel and oil filters, wind screen wipers, dry batteries, radiators, hub drums, king pins, grease nipples etc. Considerable development has also taken place in the manufacture of pharmaceuticals, chemicals, paints & varnishes, electronic equipment, scientific instruments, steel furniture, bicycle parts, AAC and ACSR conductors etc. The progress achieved so far in the State is considered as commendable because a few years ago there was no unit in Andhra Pradesh manufacturing some of the items mentioned above.

### Agro-based Industries Development in Andhra Pradesh

The Andhra Pradesh State Agro-Industries Corporation Limited is functioning with the specific objective of developing of Agro-Industries in the State. A subsidiary of the above Corporation has been organised to assist manufacturers of diesel engines in the State to standardise their products and market them efficiently.

The Corporation is also considering proposals for the establishment of a fruit processing plant at Gannavaram (Krishna Distt.) and a Soyabean processing plant at Hyderabad.

The Development Council for Agro-Industries is charged with the responsibility of examining the working of the industries which are in operation and suggest to Government suitable policies and organisational arrangements for obtaining maximum production in the units and to suggest ways and means of developing such industries incidentally helping the entrepreneurs,

*Shri K.L. Nanjappa DC(SSI) speaking on the occasion of the intensive campaign organised at Hyderabad*

technicians and financiers in the State to set up suitable enterprises.

A Master Plan for the development of Agro-Industries in the semi-urban and rural areas in the State was drawn up by the Small Industries Service Institute, Hyderabad indicating the processing industries that could be set up, based on locally available agricultural resources, the places where the proposed industries could be located, the approximate capital investment required, availability of machinery, etc. This note was also sent to the State Director of Industries for inclusion in their State Fourth Five Year Plan.

The following industries were suggested for intensive development in Andhra Pradesh after studying the scope of Agro-Industries in agriculturally surplus areas.

1. Food Preservation
2. Straw Board from Paddy Straw
3. Fuel Briquettes
4. Pectin and Papain
5. Cashew Apple Products and Shell Oil.
6. Castor Oil based products
7. Particle Board from ground nut shell and other agricultural products.
8. Spices powders, specially Chilly Powder.

**Industrial Estates**

The Government of India, in collaboration with the State Government, have devised the scheme of constructing industrial estates for providing factory premises to small scale units. A sum of Rs. 34.6 million was spent on different estates in Andhra Pradesh by the end of Third Five Year Plan period.

During the annual plan period of 1966-67, 1967-68, 1968-69, 1969-70, after the Third Five Year Plan period, only consolidation of existing estates was taken up. An expenditure of Rs. 1.495 million, 1.15 million, 1.09 million and 0.853 million has been incurred respectively during the above years.

The different types of industrial estates established so far in Andhra Pradesh are given below (as on 1-4-1970).

| | | |
|---|---|---|
| 1. | Conventional Estates | 18 |
| 2. | Rural Industrial Estates | 2 |
| 3. | Assisted Private Industrial Estates | 15 |

In addition to the above, during 1964-65 a cooperative industrial estate at Hyderabad was established at a cost of Rs. 4.284 million with the assistance of State Government and Life Insurance Corporation.

**Ancillary Industries**

With the rapid development of both large and medium scale industries, the scope for promotion of ancillaries is substantial. The opportunities for establishing ancillary units to the medium and large scale industries are being regularly explored by the Small Industries Service Institute. Orders are procured for the small scale enterprises for parts and components required by the large scale units. Intensive technical assistance is also rendered to the ancillary units to standardise their products and improve their qualities to meet rigorous specifications stipulated by the large units. During 1966-67, it is estimated that parts and components valued at about Rs. 537,000 were supplied by 98 small scale enterprises to the Andhra Pradesh State Road Transport Corporation, Hyderabad, M/s. Hyderabad Allwyn Metal Works Limited, Hyderabad, M/s. Caltex Oil Refineries Limited, Visakhapatnam, M/s. Praga Tool Corporation, Secunderabad and M/s. Hyderabad Usha Works, Hyderabad. The ancillary supplies made to large scale units by the small enterprises during the last few years are given below in terms of value.

| *Year* | *Value of orders received (Rs. Thousands)* |
|---|---|
| 1963-64 | 600 |
| 1964-65 | 520 |
| 1965-66 | 819 |
| 1966-67 | 537 |
| 1969-70 | 4927* |

During the year 1969-70 efforts were continued to be made for the development of ancillary production. In the same year more than 200 small scale units participated in the ancillary production and stores valued at Rs. 4.927 million were supplied by these units to a large number of large scale industries as against Rs. 0.537 million in 1966-67.

The parts and components manufactured and supplied to large scale industries included wipers for surface grinding machine, spark wheel and level for drumcan, thrust washers, water pump shaft, milling fixture components, helmet head bands, tool bags, rear wheel and starter for automobiles, bushes, axle tube knot, wipers for Ashok Leyland buses etc., which include some of the items hitherto imported.

So far more than 120 units have been helped to work as feeder units to large scale industries in the State.

**Marketing Assistance**

Another significant feature of the service rendered by the Small Industries Service Institute is the active assistance in marketing of the products manufactured by the smal scale units. The Small Industries Service Institute recommends registration of small scale enterprises for participation in the Government Stores Purchase Programme. So far 873 small scale units have been registered. The value of orders received by small scale units under the Government Stores Purchase Programme from 1960-61 to 1966-67 with the assistance of the Small Industries Service Institute, are given below:

| *Year* | *Value of orders received (Rs. Thousands)* |
|---|---|
| 1960-61 | 192 |
| 1961-62 | 100 |
| 1962-63 | 131 |
| 1963-64 | 1099 |
| 1964-65 | 339 |
| 1965-66 | 296 |
| 1966-67 | 1258 |
| 1967-68 | n.a. |
| 1968-69 | n.a. |
| 1969-70 | 4927 |

**Technical Consultancy Service**

One of the most important functions of the Small Industries Service Institutes is to render technical advice to the small scale industrialists. In the State of Andhra Pradesh, besides the Small Industries Service Institute at Hyderabad, there are three Extension Centres offering specialised technical assistance in different fields. The Technical Consultancy Services

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*This includes a part of the supplies made to the Defence Department and Railways for which separate data are not available.

INAUGURATION OF
FIRST STIPENDIARY TRAINING COURSE IN
INDUSTRIAL ENTREPRENEURSHIP FOR ENGINEERS
SMALL INDUSTRIES SERVICE INSTITUTE HYDERABAD
11th SEPTEMBER 1970

*Shri G.N. Murthy, Director SISI, Hyderabad speaking on the occasion of the inauguration of the special Training Course for graduate engineers. From left to right: Shri M.R. Rai, Director of Industries, Govt. of Andhra Pradesh; Shri K. Vijaya Bhasker Reddy, Minister for Finance; and Shri G.C. Venkanna, Minister for Small Scale Industries Govt. of Andhra Pradesh.*

have proved very useful to the industrialists in starting new industries and in working efficiently the units that have already been started. In 1969-70 alone not less than 5,270, 1,244, 5,490 entrepreneurs were given technical advice, guidance to start new industries and other assistance respectively. 2,530 factories were also visited.

**Workshop and Laboratory Services**

In the workshops attached to the Small Industries Service Institute and Extension Centres, common facility services are provided and training is imparted to the candidates sponsored by small scale units. The common facility services provided and the job works undertaken are of a specialised nature which a small industrialist by himself cannot arrange due to the prohibitive cost of the equipment. In the workshops there are facilities for manufacture of glass and plastic beads and scientific glassware, and for chemical testing, general engineering, heat treatment and electroplating. Full time training is also imparted to the artisans employed in the small scale units on the modern machines installed in the workshops.

During the year 1969-70, the S.I.S.I. workshops have earned Rs. 160,907 by undertaking job works as against Rs. 56,902 in 1962-63. This phenomenal increase in the revenue returns is a positive indicator of the popularity and the usefulness of the services provided by these workshops. The total revenue returns earned by the workshops during the past five years are given below:

| *Year* | *Total receipts (Rs.)* |
|---|---|
| 1962-63 | 56,902 |
| 1963-64 | 73,770 |
| 1964-65 | 106,742 |
| 1965-66 | 126,196 |
| 1966-67 | 137,872 |
| 1967-68 | 149,175 |
| 1968-69 | 152,694 |
| 1969-70 | 160,907 |

The Small Industries Service Institute offers specialised management consultancy service in order to solve the day-to-day managerial problems faced by the small industries by regular visits to the factories. They also offer managerial counselling to the units for increasing productivity, reduction of costs and to enhance the competitive strength of the units. In selected units, in-plant studies are also undertaken to make a thorough study of its techno-managerial efficiency and optimum utilization of the men, machines and the materials. The in-plant studies are generally done by technical personnel and the management specialists by staying for a few days in the factory premises and studying the various processes in the manufacture of the products and also the managerial problems.

The small Industries Service Institute has done many in-plant studies from 1956 to 1969. Besides, the S.I.S.I. officers are regularly visiting and giving advice within the factory premises.

### Managerial And Technical Training

Management training courses are organised by the Institute for the benefit of the managers and proprietors of the small scale units. In order to acquaint them with the latest developments in the management of an industry, the Institute offers 12 week general appreciation course in management and specialised courses in financial management, cost accounting, production management, etc. For the benefit of those who do not understand English some of these courses are also conducted in the regional languages. During the year 1969-70 as many as 293 persons were trained in the general industrial management and other specialised courses.

#### *Technical Training*

Training is also imparted to the artisans and workers employed in the small scale industries with a view to acquaint them with the operation of modern machines. The training includes theoretical classes as well as practical operation of the machine. As the workers are not generally educated, the classes are conducted in the regional languages. During the year 1969-70, 327 persons have been trained in various techical trades like machine-shop practice, heat-treatment, die and tool making, electroplating, glass and plastic beads, scientific glass blowing, blue-print reading, etc. Special mention may be made of some of the courses conducted during the year 1969-70.

#### *Special Course For Indian Air Force Officers*

For the first time the Small Industries Service Institute, Hyderabad, conducted a specialised training course in personnel management for the officers of the Indian Air Force, Begumpet. This course was conducted at the request of the Station Commander, I. A. F. Begumpet, Hyderabad. The Programme of training included lectures, group discussions, case studies, film shows, etc.

#### *Specialised Course In Financial Management*

A specialised training course in financial management was conducted at Rajahmundry, East Godavari district. 28 small industrialists and their representatives attended the course and were trained. The officers of this Institute in addition to conducting classes, also visited several units, which sponsored their representatives, for studying their management problems and for giving on the spot advice.

#### *Techno-Managerial Course For Technocrats*

At the request of the Chairman, Andhra Pradesh Small Scale Industrial Development Corporation Ltd., Hyderabad, this Institute conducted a full time techno-managerial training course for the technocrats who desired to set up small scale industries. The objective in conducting this course was to inform the technocrats about the possibilities of taking up different items for manufacture, taking into account the demand for products. The facilities offered by different organisations and financial institutions were also discussed. This provided an effective forum for discussion of the problem faced by the technocrats and also the views of the promotional agencies. The training course also covered managerial aspects of small industries. In addition to visits to factories, group discussions and case studies, several films on small industries development were also screened. Apart from the officers of the Institute, training classes were also conducted by guest speakers, who gave their own experience to the participants. In order to enable them to select the right items, taking into consideration their own background, the trainees were made to conduct field-studies and prepare feasibility reports, which were later on submitted to the Andhra Pradesh Small Scale Industrial Development Corporation.

The training programme was highly appreciated by the Chairman, Andhra Pradesh Small Scale Industrial Development Corporation.

### Economic Investigation

A necessary pre-requisite for industrial development programme is the knowledge regarding the industrial possibilities in an area. The Economic Investigation Team conducts Industrial Potential Surveys, Industry Outlook Surveys and Feasibility Studies besides providing economic information for the guidance of prospective entrepreneurs.

Industrial Potentiality Surveys are conducted to make assessments about the industrial possibility of a particular area. These reports generally indicate the various programmes that have to be initiated for a sustained growth of the area selected for study. Besides, the survey reports also indicate the industries that have scope for development in the area. These recommendations are based on the resources, demand and economic overheads that are available in the area. All the 20 districts in the state have been surveyed.

In order to inform the agencies and the individual entrepreneurs about the scope for the development of small scale industries, intensive campaigns are organised. During the intensive campaign, a complement of technical and economic investigation officials tour the area and bring to the notice of the public the industrial potentiality of the area.

Besides, the S.I.S.I. also takes up Industry Studies and Feasibility Reports on selected industries the results of which are finalised on an All-India basis and disseminated to the interested entrepreneurs.

With the information collected through the various studies, economic information is provided to the persons who are desirous of starting industries. A number of persons often call on the officers in the S.I.S.I. to enquire about the prospects of various industries, raw material and machinery requirements for various types of industries. The surveys conducted provided useful information for these entrepreneurs for making the pre-investment decision.

**Rural Industrialization Programme**

The Institute has been regularly assisting the State Government and the Project Authorities in implementing the programmes drawn up by them in connection with the Rural Industires Projects in Andhra Pradesh. There are three Rural Industries Projects in the State viz. Anantapur, Nalgonda and Narsaraopet in Guntur district. From the commencement of the programme, the S.I.S.I. has been actively associated with the programme. The survey teams constituted for surveying areas have reported about the industries having scope. The techical officers regularly visit these projects to offer technical advice in the working of the units. An officer is earmarked for the work connected with the rural industries programme. In order to make the service more effective, the whole of the S.I.S.I. is in fact made responsible for the successful working of the units located in rural areas.

**Fourth Five Year Plan in Andhra Pradesh**

The Fourth Five Year Plan allocation for small scale industries and industrial estates is yet to be finalised by the Andhra Pradesh Government. In the draft plan, the proposed outlay is as follows:

| | Rs. million |
|---|---|
| 1. Small Scale Industires Schemes | 720 |
| 2. Community Development Programmes | 86 |
| 3. Industrial Estates | 380 |

**Export Promotion**

The Institute is helping competent small industries in exporting their products. The Institute recommends the names of suitable units for registration with the State Trading Corporation under the Export Aid to Small Industires (EASI) scheme. So far 57 small industries of this State have been registered under this scheme. Enquiries from foreign countries are communicated to the appropriate units so that they may make an attempt to export their products. Information received from different Export Promotion Councils is also brought to the notice of the small industries. Every month the Institute is bringing out an "Export News Bulletin" which is mailed to more than 100 small enterprises. The Institute also conducts specialised courses on "Export Marketing" for the benefit of small industries.

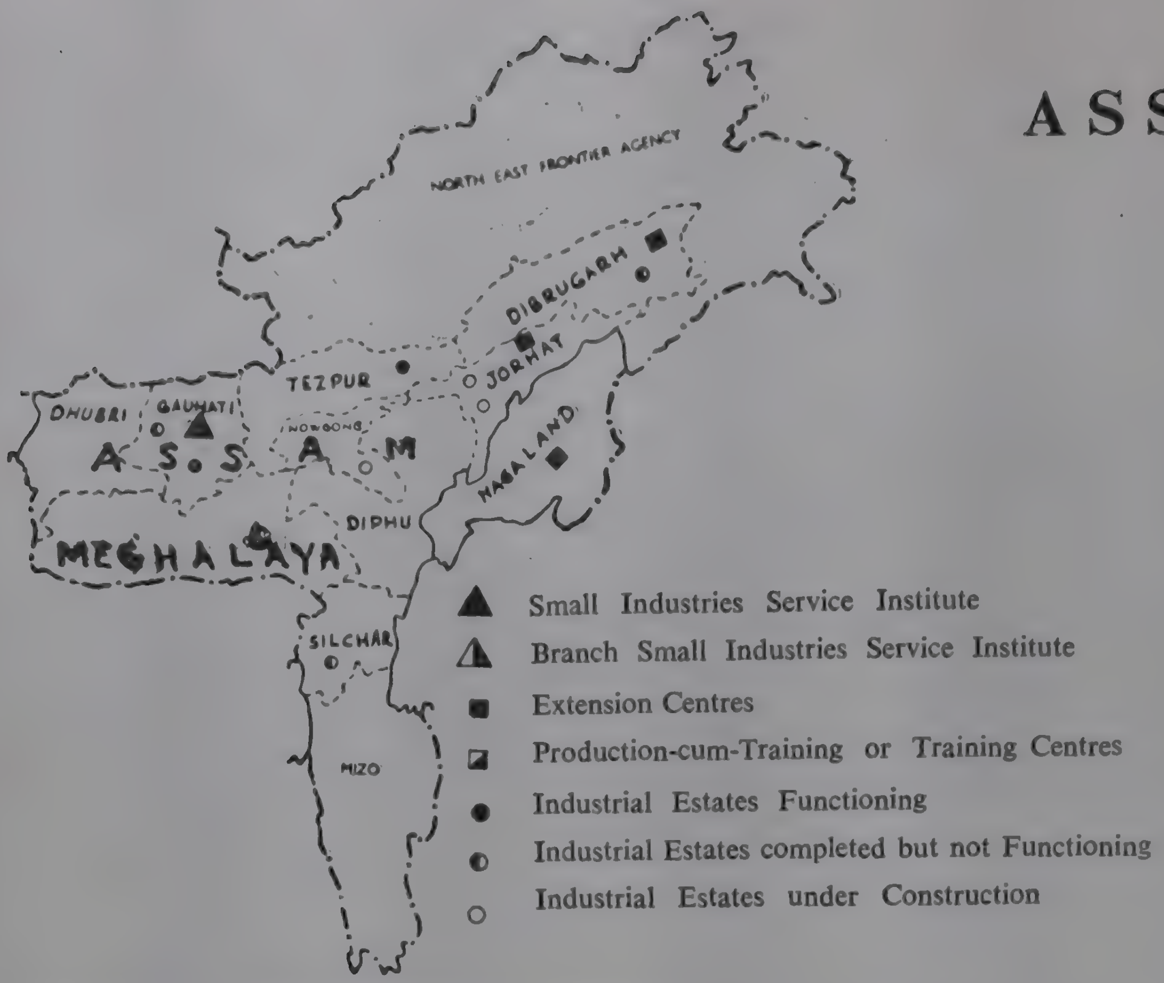
**Exhibition and Display**

Exhibitions are organised from time to time to apprise prospective entrepreneurs of the present level of development and scope for further expansion in different spheres of industrial activity in the small scale sector. The Institute has encouraged the small entrepreneurs to send their products for display in the permanent exhibition organised by Small Industries Service Institutes in some other States.

**Small Industry Extension Training Institute**

The Small Industry Extension Training Institute (SIET) located at Hyderabad was set up by the Government of India in 1962. The primary aim of the Institute was to train officers of the Government of India in management techniques, methods of regional development and human relations in industry so as to equip them for industrial extension work connected with Industrial Development Programmes in various states. The Institute also conducts seminars and discussions on current issues that have a bearing on small industry.

# ASSAM


NORTH EAST FRONTIER AGENCY
DIBRUGARH
TEZPUR
JORHAT
DHUBRI
GAUHATI
NOWGONG
A S S A M
NAGALAND
DIPHU
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Bhutan is a state in special Treaty relations with India.

ASSAM, one of the important States in the Eastern Frontier of India, is surrounded by NEFA, Nagaland, Manipur, Tripura and the newly formed State of Meghalaya of the Indian Union and by foreign territories like East Pakistan and Burma. With Tibet and China close to its northern boundary, its geographical location is of strategic significance for the defence of the country. The area of the State is 47,089 sq. miles. Assam is noted for its picturesque landscape with hills, dales, valleys and a variety of fauna and flora which attract tourists from all over the world. The mighty river Brahmaputra flows through the State covering a distance of about 720 k.m.

Tea and oil are the most important resources of Assam—the former a foreign exchange earner and the latter a key industrial raw material which not only saves considerable foreign exchange for the country but also provides the basis for the development of other industries based on petro-chemicals.

The partition of the country has practically cut off Assam from the rest of the country and particularly Calcutta which is the nerve-centre of industrial and commercial activity in the entire eastern region. However, thanks to the developmental efforts during the first three Plan periods the State has now 20,000 k.m. of motorable roads. Besides road transport, facilities for air travel and inland river navigation have also been developed. There are regular air flights from Assam to Calcutta and to different parts of the country. The total length of navigable rivers is 4,065 k.m. of which 2,193 k.m. are navigable throughout the year. The development of Pandu and Jogigopa, the two major inland ports with modern cargo handling facilities is in progress and is expected to be of considerable significance for the economic development of the area.

The perennial water resources of Brahmaputra are expected to be harnessed for the generation of electric power. The hydro-electric power potential in Assam is estimated at 12 million K.W. Electric power potential based on natural gas, coal and oil is also the highest in Assam State.

The oil refineries at Digboyi and Gauhati and the Fertiliser Project at Kamrup are the important industrial establishments in the public sector. Manu-

*Shri Viswadev Sharma, Minister of Industries, Government of Assam, inaugurating the Seminar on Ancillary Industries in Assam*

facture of bicycles, house service electric meters, processing and canning of fruits, cotton spinning, sugar mill etc., are industries in the private sector. There are in all 14 large scale enterprises in the State which give direct employment to 15,044 persons and account for an annual production worth Rs. 550 million approximately. Another oil refinery with a Petro-chemical complex, a Paper factory, a Cement Plant and a Sugar Mill (in the co-operative sector) are some of the large scale enterprises which are expected to be set up in the State in the near future.

As for the development of small scale industries in the State, there has been a steady growth in their number from year to year despite grave set-backs caused by territorial aggression and natural calamities like floods. This has been possible only because of the determined efforts of the Small Industries Service Institute, the State Directorate of Industries, Assam Small Industries Development Corporation, Assam State Financial Corporation etc. The cumulative increase in the number of registered small scale units in Assam since 1961 is given in Table I.

TABLE I

| *Year* | *No. of Regd. Units* |
|---|---|
| 1961 | 197 |
| 1962 | 300 |
| 1963 | 420 |
| 1964 | 552 |
| 1965 | 554 |
| 1966 | 750 |
| 1967 | 804 |
| 1968 | 1045 |
| 1969 | 1157 |
| 1970 | 1500 |

The figures of 1964 and 1965 are almost identical. No progress could be made during 1965-66 as this was the period of Indo-Pakistan conflict. The total employment in small scale sector (including unregistered small enterprises) is estimated at 12,000.

### Participation of the small scale units in Assam State in Government Stores Purchase Programme

With the assistance of S.I.S.I. and other concerned agencies; the small units in the State have been able to participate in Government Stores Purchase Programme. Table II indicates the extent of participation by small scale units in defence as well as civilian purchases.

TABLE II

| *Year* | *Defence orders executed* | | *Orders received under Central Govt. Stores Purchase Programme* | |
|---|---|---|---|---|
| | *Value (Rs. 000's)* | *No. of units participating* | *Value (Rs. 000's)* | *No. of units participating* |
| 1967 | 1233 | 5 | 767 | 8 |
| 1968 | 586 | 4 | 650 | 11 |
| 1969 | 511 | 3 | 722 | 17 |
| | 2330 | | 2139 | |

As a result of the close and continuous liaison between small scale units and some large enterprises such as Oil Refinery, Railways, Fertilizer Project, Cycle manufacture etc., the Small Industries Service Institute, Gauhati has been able to induce small enterprises to execute certain items of work as sub-contractors. In this way, a kind of ancillary relationship is being built up speadily between small and large enterprises in the State.

TABLE III

| *Year* | *Value of orders executed* (Rs. 000's) | *Number of units* |
|---|---|---|
| 1967 | 554 | 6 |
| 1968 | 3581 | 15 |
| 1969 | 4022 | 8 |

**Industrial Estates**

There are 5 industrial estates in Assam, one each at Gauhati, Tinsukia, Nalbari, Dhekiajuli and Badarpur in which about 64 small scale units are functioning. Industrial estates have also been completed at Jorhat and Sibsagar.

The construction of another industrial estate at Nowgong will be shortly completed. The total allocation of funds for the Industrial Estates Programme in Assam during the 4th Plan period is Rs. 6.7 million.

**Loans Granted to Small Scale Units**

The credit needs of small enterprises in Assam are met by various agencies like the State Directorate of Industries (under State Aid to Industries Act), State Bank of India, State Financial Corporation, Nationalised Commercial Banks and the National Small Industries Corporation Ltd. (a Government of India concern). The amount of loans disbursed under State Aid to Industries Act, and the number of parties assisted during the last three years are given in the Table IV.

TABLE IV

| *Year* | *Amount of loans disbursed (Rs. 000's)* | *No. of parties assisted* |
|---|---|---|
| 1967-68 | 360.0 | 41 |
| 1968-69 | 515.5 | 132 |
| 1969-70 | 701.5 | 176 |

As regards financial assistance to small enterprises by the State Bank of India, the Small Industries Service Institute is required to furnish technical reports on such small enterprises to the State Bank of India. During the first 10 months ending October 1970, the Institute had furnished technical reports in respect of 110 small enterprises to the Bank. Another form of credit assistance is by way of supply of machinery and equipment to small enterprises on hire-purchase basis. This assistance is given by the National Small Industries Corporation Ltd. The value of machinery and equipment supplied by the Corporation during the last three years is given in Table V.

TABLE V

| *Year* | *Value of machinery and equipment supplied* (Rs.) |
|---|---|
| 1967-68 | 1,124,032 |
| 1968-69 | 201,861 |
| 1969-70 | 1,219,528 |

Medium and long term loans are sanctioned by the State Financial Corporation. During the last 10 years, the Corporation received 243 applications from small enterprises, for loans amounting to Rs. 58.77 million out of which 211 applications for loans amounting to Rs. 50.27 million were disposed of.

**Rural Industries Projects**

At present, there are two Rural Industries Projects in the State, one at Gauripur (Goalpara) and the other

*A view of a section of the workshop at Industrial Estate, Gauhati*

at Aijal in the Mizo Hills District for intensive development of industries in the rural areas. Moreover , as suggested by Rural Industries Project Committee, the Department of Industries, Government of Assam has recommended two growth centres at Golokganj and Kolasib in the Gauripur and Aijal Project areas respectively to foster the growth of industries in rural areas.

**Impact of SISI Work**

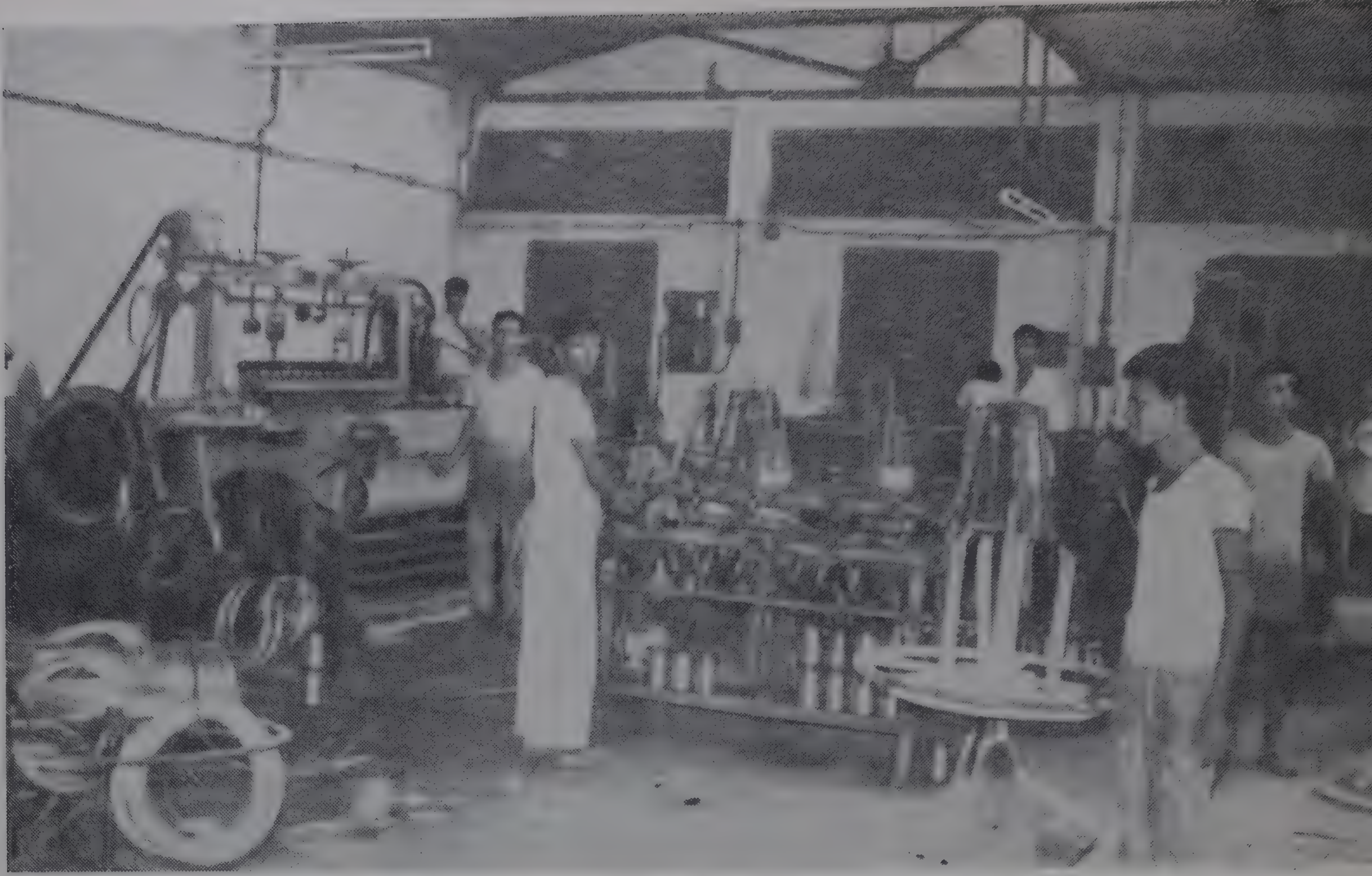
The Small Industries Service Institute, Gauhati is responsible for the development of small scale industries in Assam and in the adjoining States and areas of the North Eastern Region excluding the Union Territory of Tripura. The Small Industries Service Institute, Gauhati, renders all assistance directly and through other concerned agencies, to the small industrialists and entrepreneurs. The Institute has the following technical sections:—

Mechanical Engineering section with a workshop. A mobile Demonstration Sheet Metal Workshop and Metallurgy section.
Chemical section with a Laboratory.
Ceramics section
Leather section
Industrial Management and Training section
Economic Investigation section.

Besides, there are three Extension Centres under the Institute. Apart from extending common facility service, these Centres also perform the functions of the Institute in their areas. These Centres are located at the following places:

Tinsukia, Assam (Mech. Engg.)
Jorhat, Assam (Mech. Engg.)
Dimapur, Nagaland (Mech. Engg.)

Some facts and figures about the services rendered by this Institute and its Extension Centres during the last decade are detailed below to highlight the tempo of its activities in order to meet the growing needs of the small scale industries in the State.



*Defence items being manufactured at a small scale unit in the Industrial Estate, Gauhati*

TABLE VI

| *Year* | *No. of visits for on-the-spot advice* | *No. of cases of technical advice given* | *No. of enquiries information supplied to start new industries* |
|---|---|---|---|
| 1959-60 | 629 | 361 | 315 |
| 1960-61 | 1138 | 687 | 622 |
| 1961-62 | 1009 | 784 | 421 |
| 1962-63 | 1033 | 841 | 104 |
| 1963-64 | 1090 | 833 | 659 |
| 1964-65 | 1705 | 670 | 749 |
| 1965-66 | 1080 | 1012 | 617 |
| 1966-67 | 1255 | 1006 | 635 |
| 1967-68 | 1936 | 749 | 1496 |
| 1968-69 | 2450 | 1214 | 1239 |
| 1969-70 | 1363 | 2695 | 1195 |

The figures furnished above show that activities regarding technical assistance, which is the core of all the activities of the Institute, has registered a rise of 179% in 1969-70 in relation to 1959-60. Of late, the workshop and laboratory facilities have been availed of in a larger measure as can be seen from the facts presented below:—

TABLE VII

WORKSHOP AND LABORATORY SERVICES

| *Year* | *Target set for receipt of Revenue* *Rs.* | *Actual Receipts* *Rs.* |
|---|---|---|
| 1968-69 | 5,500 | 6,127 |
| 1969-70 | 7,500 | 9,039 |

**Training Facilities**

The training cell in the Institute has a continual training programme and provides training facilities in the following trades:

Industrial Management
Machine Shop Practice
Welding
Heat Treatment
Blacksmithy

The performance of the Institute during the last decade in this respect is indicated in Table VIII.

TABLE VIII

| Year | No. of persons trained<br>Management Courses | <br>Technical Courses |
|---|---|---|
| 1961-62 | 17 | — |
| 1962-63 | 20 | 5 |
| 1963-64 | 23 | 55 |
| 1964-65 | 46 | 131 |
| 1965-66 | 30 | 123 |
| 1966-67 | — | 80 |
| 1967-68 | 42 | 135 |
| 1968-69 | 35 | 185 |
| 1969-70 | 32 | 122 |
| | 245 | 836 |

**Economic Investigation and Research**

Economic Investigation Section has completed the surveys of industrial development potentialities in the following districts of Assam:

Goalpara
Cachar
Darrang
Kamrup
Sibsagar
Nalbari Sub-division of Kamrup District.

At the instance of the Government of Assam, techno-economic studies on 17 subjects were carried out to assess the scope for the following small enterprises in Assam:—

Cast Iron Foundry and Machining
Non-Ferrous Foundry and Machining
G.I. Pipe and pipe fittings
Type foundry
Alum
Paints
Bakery products
Plastic
Tea Garden machinery
Machine tools
Conduit pipes
Steel Furniture
Agricultural Implements (improved type)
Bicycle Parts and Accessories
Domestic Electrical Appliances
Wall Clocks
Radio Receivers

Government of Assam have assured all possible help to those interested in setting up these industries in Assam. Intensive Development Campaigns were conducted under the joint auspices of the State Directorate of Industries and the National Small Industries Corporation in the following areas:—

District of Cachar
Tezpur
Goalpara District
Manipur

Open House Discussions and Seminars are also organised to discuss and solve technical problems by mutual exchange of technical views and practical ideas between the officers of the Institute and knowledgeable persons in various industries and trades. Some of the important Open House Discussions were on the following subjects:—

Prospective industries in Assam
Creativity in Management Accountancy
Food-based industries of Assam
Small and Micro-scale processes developed at Regional Research Laboratory, Jorhat.

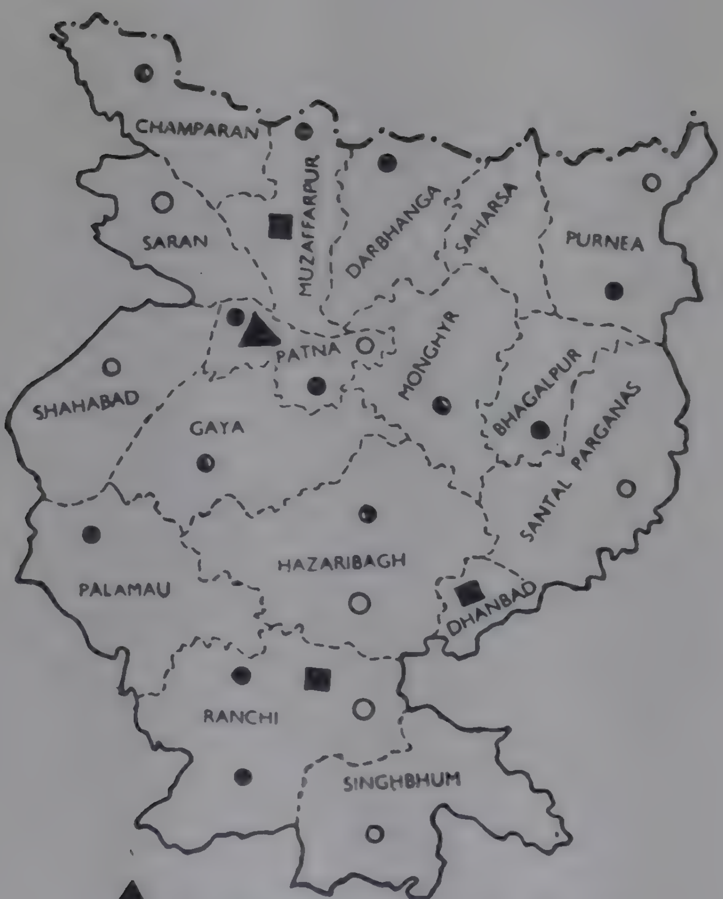
As a regular feature, the Institute also renders assistance to small scale units in export marketing.

The Institute also attends to various other items of work, such as assistance to State Government in matters relating to development of new enterprises in Rural Industries Projects, Industrial Estate, supply of schemes, preparation of Project reports, feasibility studies, furnishing technical reports to banks for providing financial accommodation to small scale units, sponsoring workers in small scale units for higher training, furnishing test reports, competency certificates, management consultancy, inplant studies etc. The total allocation of funds for the development of small scale industries in Assam during the Fourth Plan period is 28.7 million.

**Exhibitions**

The Small Industries Service Institute, Gauhati organises and participates in the exhibitions. The Institute participated in the 'Industrial Exhibition—Assam 1970' held at Gauhati. Various machines required by small scale units in Assam were displayed in the SISI stall besides charts, models, publications, leaflets and information brochures. A good number of schemes were sold to the prospective entrepreneurs.

# BIHAR



▲ Small Industries Service Institute.
■ Extension Centres.
● Industrial Estates Functioning.
◐ Industrial Estates Completed but not Functioning.
○ Industrial Estates under Construction.

Based upon Survey of India map with the permission of the Surveyor General of India.

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BIHAR with a population of about 50 million is the second most populous state in the Country ranking next only to U.P. The State is divided into 3 distinct Regions viz. North Bihar, South Bihar and the Chhotanagpur Plateau, each with varied resources both human and material. Of the three Regions, the Chhotanagpur Region is endowed with rich mineral resources and contains 80% of India's known deposits of Coal. Whereas South Bihar has attracted more industrial enterprises and occupies an important position on the industrial map of Bihar. North Bihar has yet to be developed industrially. The level of industrial development in Chhotanagpur Region is, however, comparatively higher than the other Regions.

Bihar is endowed with the richest mineral resources accounting for about 41% of the Country's total mineral reserves. It produces 100% of India's Copper and Kaynite, more than 50% of Coal, Mica, Bauxite and China Clay and about 40% of Iron ore. Other minerals of importance in the State are manganese, limestone, graphite, asbestos, felspar, quartz and various radio-active minerals. As such, this State offers enormous opportunities for the development of mineral-based industries. Apart from this, the State is equally rich in forest resources like timber of high quality, bamboo and sawai grass. It is surprising that the State so richly endowed, has not shown much progress in the development of small scale industries. However, as a result of the concerted efforts of different agencies charged with the task of promoting the development of small scale industries in the State, many entrepreneurs have been motivated to start a number of small enterprises. It is evident from the table given below, that there has been an increase in the number of new small enterprises registered each year.

TABLE 1

SMALL SCALE UNITS REGISTERED WITH THE DIRECTORATE OF INDUSTRIES

| *Year* | *No. of units* | *Cumulative total* |
|---|---|---|
| 1967 | 337 | 1,633 |
| 1968 | 482 | 2,115 |
| 1969 | 1,750 | 3,865 |

The impact of developmental measures for the promotion of small scale industries in the State can be seen from the fact that the total number of registered units has increased from 1,633 in the year 1967 to 3,665 in the year 1969.

The division-wise distribution of the small scale units, registered with the Directorate of Industries in the year 1969 alone is given in the following Table:

TABLE 2

| | |
|---|---|
| Patna Division | 158 Units. |
| Bhagalpur Division | 307 Units. |
| Tirhut Division | 120 Units. |
| Chhotanagpur Division | 320 Units. |
| Headquarter (Patna) | 845 Units. |
| | 1,750 Units. |

The district-wise distribution of the small scale units registered with the Directorate of Industries upto June, 1968 is given in the following Table:

TABLE 3

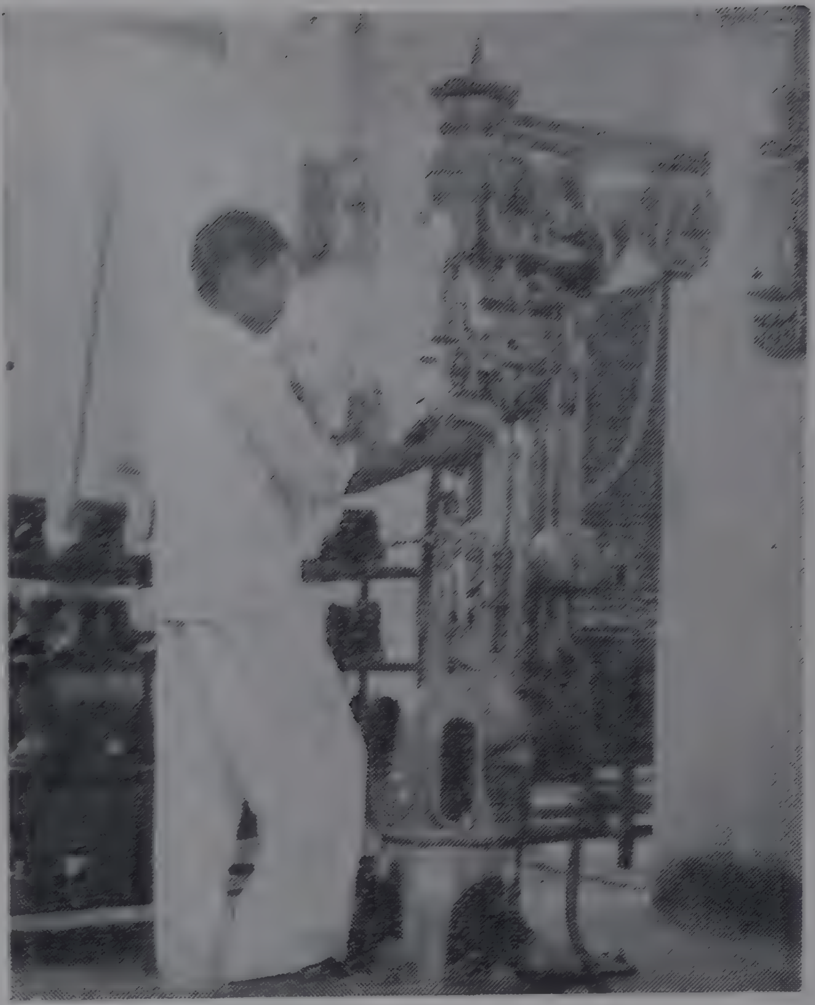
| *Name of the District* | *Total number of units registered* (As on 30-6-1968) |
|---|---|
| 1. Patna | 461 |
| 2. Gaya | 121 |
| 3. Shahabad | 110 |
| 4. Saran | 94 |
| 5. Champaran | 76 |
| 6. Muzaffarpur | 134 |
| 7. Darbhanga | 93 |
| 8. Monghyr | 72 |
| 9. Bhagalpur | 88 |
| 10. Saharsa | 20 |
| 11. Purnea | 42 |
| 12. Santhal Parganas | 33 |
| 13. Hazaribagh | 64 |
| 14. Ranchi | 144 |
| 15. Dhanbad | 102 |
| 16. Palamu | 42 |
| 17. Singhbhum | 187 |
| | 1,833 |

*Source*: Directorate of Industries, Bihar.

The industrial units registered with the Directorate of Industries upto June, 1968 have been grouped according to the products manufactured as under:

TABLE 4

| *Industry Group* | *Number of Units* |
|---|---|
| 1. Food Products | 130 |
| 2. Beverage | 6 |
| 3. Tobacco and Tobacco Products | 8 |
| 4. Textiles (knitted garments and ready made garments). | 28 |
| 5. Footwear, other wearing apparel and made up textile goods. | 37 |
| 6. Furniture and Fixture | 88 |
| 7. Wood and Cork except Furniture | 65 |
| 8. Paper and Paper Products | 18 |
| 9. Printing Industries | 18 |
| 10. Rubber and Rubber Products | 7 |
| 11. Chemical and Chemical Products | 301 |
| 12. Non-metallic Mineral Products except of Petroleum and Coal. | 92 |
| 13. Metal Products. | 818 |
| 14. Electrical Machinery, apparatus, appliances etc. | 88 |
| 15. Transport Equipment. | 47 |
| 16. Leather and Leather Products except footwear and other wearing apparel. | 2 |
| 17. Electricity Gas and Steam | 5 |
| 18. Miscellaneous industries. | 125 |
| | 1,883 |



*Extension Centre of SISI, Bihar situated at Ranchi at work*

Over 43% of the units in the State are in the basic metals group. These units are manufacturing a variety of products like engineering stores, agricul-

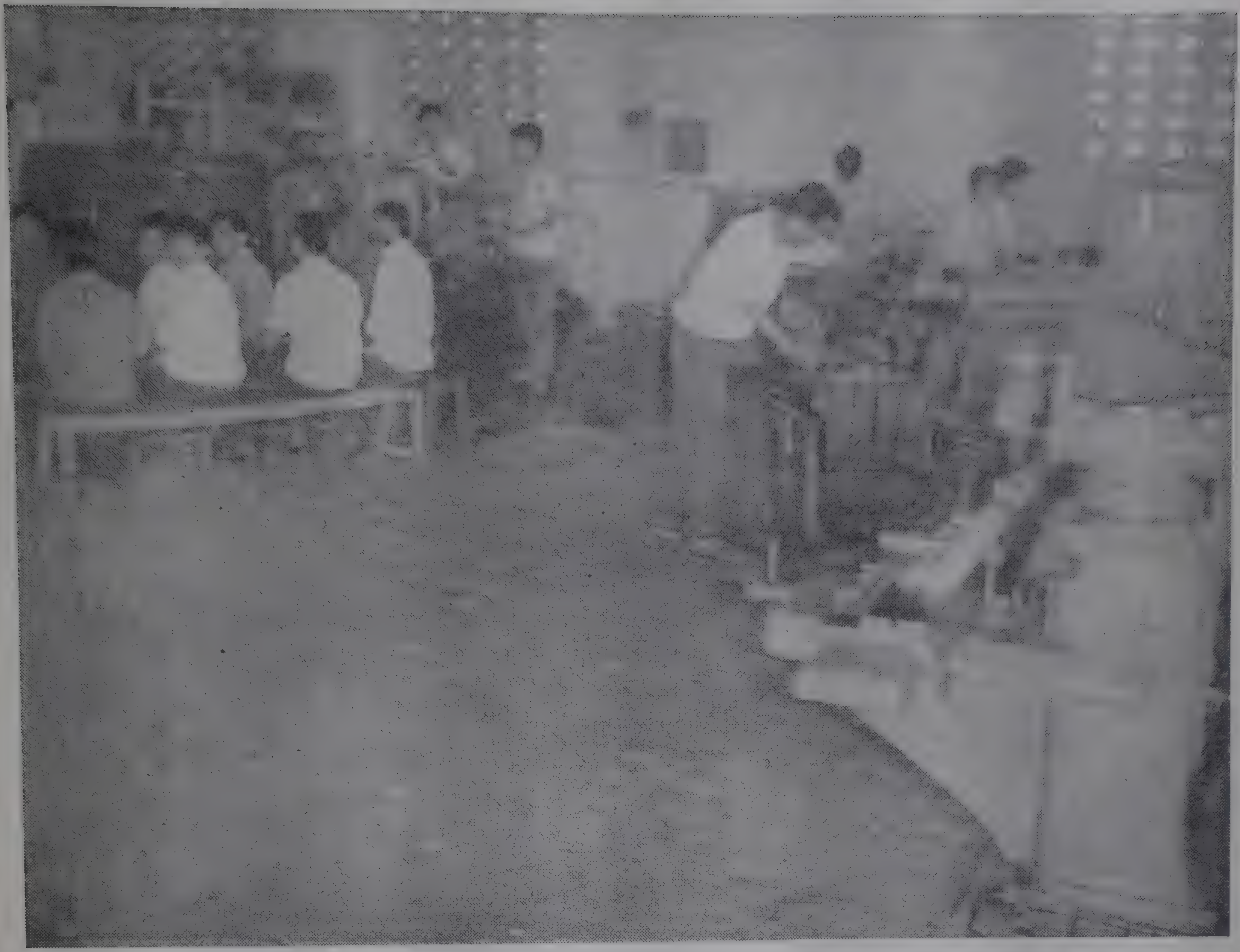
*Unemployed graduate engineers attending Entrepreneurship Course conducted by SISI—Patna (Bihar)*

tural implements, bolts and nuts and malleable castings. In the chemical group a good number of units are manufacturing soap, paints & varnishes, writing ink, cosmetics, etc.

The items manufactured in the State included those, which do not require very high levels of technological skills. However, with the development of large industrial units at Ranchi, Bokaro, Sindri and Barauni in the Public Sector and as a result of the various developmental measures taken by the Central as well as the State Government for accelerating the pace of industrial development, many small scale units are being set up to meet the requirements of a variety of ancillary stores of these large scale units.

**Development of Ancillary Industries**

Bihar offers excellent scope for the promotion of ancillary industries because quite a large number of large scale industries in Private and Public Sectors are located in the State. In the Public Sector, the biggest industrial complex exists at Ranchi where Heavy Engineering Corporation Limited, Heavy Machine Tools Plant, Heavy Machine Building Plant and the Foundry Forge Plant are located. The Head Offices of the National Coal Development Corporation as well as Hindustan Steel Limited are also located at Ranchi. The Indian Oil Refinery is located at Barauni and the fourth Steel Plant is coming up at Bokaro. Besides, a few large scale State Government Undertakings have also gone into production in the South Bihar Region. The Bihar State Superphosphate Factory located at Sindri has been manufacturing Single Superphosphate. Another Bihar Government Undertaking M/s. High Tension Insulator Factory. Ranchi is engaged in the manufac-



*Theoretical and practical training of Small Industry Personnel at the SISI Extension Centre—Dhanbad*

ture of High and Low Tension Insulators. This unit has offered a good scope for ancillary development and has been purchasing Insulator pins of different sizes from the small units located in this State. A list of items required by these units is given below:

| | |
|---|---|
| (1) National Coal Development Corporation, Ranchi | Disinfectant fluid, Dog spikes, Kodali with handle complete, Brass Washer, Copper Lock Washer, M.S. Spring Washer, Phowrah, Crow Bar, Tarpaulins, Tents, Buckets for general use, Picks, Miners' Safety Helmets and Cane Basket, etc. |
| (2) H.E.C. Ltd., Ranchi | Tungsten Carbide tipped tools, High Speed Steel Tools, Jigs and Fixtures, Hand tools, Precision measuring tools, Dies and Taps; Press and tools, Springs, Handling equipment, Labels and Name Plates, Aprons, P.V.C. Wire, Star Delta Starter, etc. |
| (3) Barauni Refinery | Spare parts for Pumps, Spare Parts for Russian Pumps, Spare Parts for Rumanian Kerosene Treating Unit, Compressor Spare Parts, Safety Valves, Spares for Instrumentation, Spares for Tele-communication. |
| (4) High Tension Insulator Factory, Ranchi | Insulator pins of different sizes. |
| (5) Bokaro Steel Ltd., Bokaro | Plates and Sheet Metal Products, Steel Castings and Forgings, Industrial Fasteners, Refractories, Oxygen Gas, Safety Equipments, Electrodes, Small Tools, etc. |

*Workers at work in the workshop attached to SISI—Patna*

In the Private Sector, the concentration of large scale industries is in Jamshedpur area where the Tata Iron and Steel Company Limited, Tata Engineering and Locomotive Company Limited, Tata-Robins-Frazer Limited, Indian Cable and Wire Products Ltd., and M/s. Tata-Yodogawa Ltd., etc. are located. The other large scale units like M/s. Britania Engineering Company Limited, Mokameh (Patna), M/s. Bata Shoe Company (P) Ltd., at Patna and Mokameh, Rohtas Industries, Dalmianagar (Shahabad), M/s. Arther Butler and Company Limited, Muzaffarpur, M/s. Imperial Tobacco Company of India, Monghyr, M/s. Indian Explosives Ltd., Gomia (Hazaribagh), M/s. Usha Martin Black Limited, Ranchi etc. also offer a good scope for development of ancillary industries.

At present there are a number of small scale units which are engaged in making ancillary stores. These units produce and supply general engineering stores, metallurgical, chemical and electrical products. The total value of the products supplied by small ancillary units in the State during the last three years as per information available is given below:

| *Year* | *Value of goods supplied* (Rs. million) |
|---|---|
| 1967-68 | 9.3 |
| 1968-69 | 23.2 |
| 1969-70 | 23.4 |

## Industrial Estates

Industrial Estates have been recognised as an important factor in promoting the growth of small scale industries. The progress of Industrial Estates in Bihar is shown in the tabular form below:

| *Location of Industrial Estate* | *No. of sheds constructed* | *No. of sheds occupied* | *Total No. of sheds functioning* | *Total Employment* | *Main items of manufacture* |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1. Patna U | 43 sheds<br>7 developed plots | 50 | 47 | 1235 (Estimated) | Sewing Machine, Insulator Pins, Hydraulic Jacks, Automobile Parts, etc. |
| 2. Biharshariff U | 15 | 14 | 11 | 54 | Agricultural Implements, Footwear, Hand made paper, etc. |
| 3. Darbhanga U | 52 | 51 | 44 | 616 (Estimated) | Plastic cane, Aluminium Utensils, Agricultural Implements, Squash & Jelly etc. |
| 4. Ranchi-I U | 32 | 32 | 30 | 594 (Estimated) | Storage Batteries, Conduit Pipes, Wooden toys, Ammunition Boots, Plastic Containers. |
| 5. Monghyr U | | Construction not yet started. | | | |
| 6. Ranchi-III U | | Under construction. | | | |
| 7. Muzaffarpur U | 32 | 28 | 23 | 131 | Agricultural Implements, Structural fabrication, Aluminium Utensils, Plastic toys, etc. |
| 8. Bhagalpur U | 36 | 14 | 10 | 73 | Footwear, Polysheet, Poly bags, Aluminium Utensils, Steel furniture, Agricultural Implements etc. |
| 9. Purnea SU | 18 | 10 | 10 | N.A. | Plastic articles, Agricultural Implements, R.C.C. Pipes, etc. |
| 10. Daltongunj SU | 18 | 2 | 2 | N.A. | Paints & Varnishes. |
| 11. Lakhisarai SU | 35 | — | — | — | Electrification work in progress. |
| 12. Tilaiya SU | 35 | 29 | — | — | Machines being installed. |
| 13. Murliganj SU | 26 | Plumbing and Electrification work in progress. | | | |
| 14. Bikramgunj SU | — | Construction work to be commenced. | | | |
| 15. Jasidih R | 35 | Construction work in progress. | | | |
| 16. Ram Nagar R | 35 | Electrification work in progress. | | | |
| 17. Baroon R | 26 | Electrification work in progress. | | | |
| 18. Marhowrah R | — | Construction work to be commenced. | | | |

U=Urban.
SU=Semi-Urban.
R=Rural.

Besides this, 3 Industrial Areas are being developed at Adityapur, Patna and Ranchi.

## Financial Assistance and Hire-purchase of Machinery

Provision of adequate finance on easy terms is indispensable for the healthy growth of small scale industries as the plough-back capacity of the small industrialists is rather low. In order to meet the credit needs of small enterprises, a number of agencies have formulated schemes to advance various types of loans to small industrialists and entrepreneurs. The agencies advancing loans are detailed below:

### *Loan Under State Aid to Industries Act.*

The loans under State Aid to Industries Act are disbursed by the Directorate of Industries, Bihar. The financial assistance provided by the Directorate of Industries during the last three years is given below:—

| *Year* | *Amount (Rs. million)* |
|---|---|
| 1967-68 | 1.64 |
| 1968-69 | 1.63 |
| 1969-70 | 2.71 |

*A view of the workshop attached to Small Industries Service Institute—Patna*

*State Bank of India*

The State Bank of India and its subsidiaries sanction loans for working capital and for purchase of machinery and equipment. The working capital limits sanctioned by the State Bank of India and its subsidiaries to 723 small scale units in the State of Bihar till 30th June 1970 aggregated Rs. 57.4 million. The nationalised commercial banks are also advancing loans to the small scale units for their working capital and for purchase of machinery and equipment. Upto March 1970, the commercial banks sanctioned credit limits aggregating to Rs. 10.5 million and 81 small enterprises were benefited.

*National Small Industries Corporation*

The National Small Industries Corporation Ltd., (a Government of India undertaking) assists small scale industries by supplying machinery on hire-purchase for the expansion and modernisation of existing units and also for establishment of new industrial enterprises. Although the scheme is in operation since more than a decade, small enterprises in Bihar State have not availed of this facility to a large extent. During the year 1969-70 the Corporation supplied machinery and equipment worth Rs. 1.19 million to small enterprises in the State.

### *Bihar State Financial Corporation*

The Bihar State Financial Corporation advances loans to the small industrialists for the purchase of fixed assets. The quantum of loans advanced by the Corporation during the last three years is as follows:

| *Year* | *Amount* (*Rs. million*) |
|---|---|
| 1967-68 | 6.11 |
| 1968-69 | 6.40 |
| 1969-70 | 5.47 |

### Marketing

Under the programme of marketing assistance, the State Governments are purchasing their requirements of a variety of stores from small scale units and also giving them price preference in deserving cases. The Small Industries Service Institute, Patna also assists the small scale units in getting their units enlisted with the NSIC for the supply of various stores required by the Directorate General Supplies and Disposals, (D.G.S. & D.), Government of India. During the period April, 1967 to March, 1970, 560 units were enlisted under the Central Government Purchase Programme through the SISI, Patna.

The value of tenders received under the Central Government Stores Purchase Programme during last three years is as follows:

| *Year* | *Value of Orders* (*Rs. 000 's*) |
|---|---|
| 1967-68 | 910 |
| 1968-69 | 1,216 |
| 1969-70 | 464 |

### Economic Investigation and Information Service

Economic Information Service is an important aspect of the extension service organised through the Small Industries Service Institutes. Selected Area Studies as well as Industry Studies are taken up with a view to identifying the prospective industries taking into consideration the availability of resources, demand, technological skills, etc. The Small Industries Service Institute, Patna had already completed the Area Surveys of all the 17 Districts in the State. The Advisory Committee attached to the Small Industries Service Institute, Patna advised the conduct of Evaluation Studies of the Districts which were surveyed long back with a view to finding out the level of industrial development as well as the progress of growth of small scale industries in such districts. In pursuance of this, the Small Industries Service Institute, Patna has already completed the Evaluation Study of Monghyr and Saran districts. The information collected during these studies has provided the basis for a more efficient Economic Information Service as well as for assisting the agencies concerned with the development of small scale industries in the State to initiate appropriate measures for the growth of small scale industries. On an average during a year, Small Industries Service Institute, Patna answers over a thousand enquiries from entrepreneurs on various industries. Besides this, the Institute also assists the State Government by conducting different types of *ad-hoc* studies on the problems and prospects of developing small scale industries in the State.

The Small Industries Service Institute, Patna has also been assisting the State Bank of India and other Commercial Banks in processing the loan applications from small enterprises by furnishing them with techno-economic feasibility reports about the enterprises to enable the banks to advance loans to the parties.

### Rural Industrialisation Programme

Rural Industrialisation Programme has assumed an important place in the industrial development plan of the Country. The Small Industries Service Institute, Patna has been actively associated with the Rural Industries Projects in the implementation of the programmes for the development of Rural Industries. The technical officers of this Institute also visited these projects from time to time to guide and assist the existing enterprises and potential entrepreneurs by giving them suitable advice on better techniques of production, information on the scope for new enterprises and the types of assistance available to set up such enterprises. The Small Industries Service Institute, Patna also organised a number of training courses through their Mobile Workshops as well as special technical training courses in Rural Industries Projects Areas. The response has been found quite satisfactory. Open House Discussions on various technical aspects affecting the growth of selected industries in such projects have also been organised and found very satisfactory. In order to co-ordinate the activities of Rural Industries Projects, a technical Officer of this Institute has been especially earmarked to look after the Rural Industries Programmes and also to take effective steps to implement the programmes of rural industrialisation. The number and types of small scale units set up in different R.I.P. Areas are given below:

| *Name of the Area* | *Year* | *No. of new units set up* | *Products being manufactured* |
|---|---|---|---|
| 1. R.I.P. Dumka | 1968-69 | 19 Units | Agarbatti, Zarda, Bakery, Candle, Cement Pipe, Bone Meal, Fountain Pen, etc. |
| 2. R.I.P. Pusa | 1968-69<br>1969-70 | 95 Units | Carpentry, Leather, General Engineering and also other items falling under the control of Village & Khadi Board |
| 3. R.I.P. Nawadah | 1969-70 | 36 Units | Tyre Retreading, Utensils, Cattle feed, Radio Repairing, Footwear Tanning, Rubber Products. |

**Export Promotion**

Export Promotion has assumed an important place in the economic development of our country. A special Cell has been created in the Small Industries Service Institute, Patna to look after the export promotion work. The Cell enlists the units under the EASI Scheme of the State Trading Corporation. On the recommendations of the Export Promotion Seminar which was held at Patna, an Export Promotion Cell has also been created in the Directorate of Industries, Bihar. The Export Promotion Cell under the Directorate of Industries has initiated a comprehensive survey in collaboration with the Indian Institute of Foreign Trade, New Delhi to find out the scope for the promotion of exports from Bihar State. The survey is in progress.

**Training and Management Consultancy**

The Industrial Management and Training Division of Small Industries Service Institute conducted technical training courses for training the workers employed in small scale industries. The purpose of the training is to improve the technical skill of the workers in order that they may increase their productivity. Training courses are conducted in various technical trades such as Carpentry, Footwear, Electroplating, Machine Shop Practice, Sheet Metal, Blacksmithy by the Small Industries Service Institute, Patna and by the Extension Centres at Dhanbad, Ranchi and Muzaffarpur.

During the year 1969-70, 282 persons were given training in various technical trades including Blue Print reading and 266 persons were given training in Industrial Management. Besides, two courses were conducted for engineers in which 166 engineers participated. With a view to motivate these engineers to start their own enterprises, arrangements were made with the Directorate of Industries, Bihar for conducting Intensive Campaign in the premises of the Bihar Chamber of Commerce in which the participants desirous of setting up their own industries were required to submit their proposals to the Directorate of Industries. 29 engineers were assisted by this Institute in the preparation of schemes on different items for submission to the Directorate of Industries. Some of the participants have been successful in setting up their own industries. A special stipendiary course in Industrial Entrepreneur ship of 4 months duration for 100 un-employed engineers (comprising 50 degree holders and 50 diploma holders) has also been conducted.

During 1969-70, Small Industries Service Institute, Patna conducted In-Plant Studies of four small enterprises and prepared reports thereon incorporating suggestions designed to improve the productivity of these enterprises.

**Technical Advisory and Consultancy Service**

The Small Industries Service Institute and its Extension Centres have been giving technical advice and guidance to the small industrialists on various technical problems and also to enable them to modernise their techniques of production and increase their productivity. Technical advice is also given to entrepreneurs to set up new small enterprises. As a result of the detailed technical advice and guidance given by the officers of the Institute new small enterprises have been set up at several places in the State for the manufacture of various items such as cycle tyres, prestressed concrete poles, concrete railway sleepers, insecticide formulations, glass ampoules, asbestos cement pipes, C.I. resistance grids (an item of import substitution), insecticide sprayers, cylinder liners, guts for tennis and badminton rackets, industrial hand gloves, etc. Technical advice and guidance are also being given to a number of enterprises to solve their problems arising in the course of production. A few typical examples of such assistance are: rectification of defects in and proper re-alignment of various parts of a typewriter-ribbon making machine and advice on the appropriate specification of cloth for use in the manufacture of ribbon; advice on the correct process of pickling and galvanizing to be followed for manufacture of galvanised pipes of ½" to 4" diameter; suggestion of a special composition of lubricant for use in aluminium wire drawing for a unit manufacturing ACSR conductors; supply of suitable drawings of jigs for steel structural fabrication and advice on the method of estimating raw materials required to facilitate quoting for a tender.

# DELHI

DURING the last two decades, there has been a phenomenal growth of industries in the Union Territory of Delhi. Although Delhi is small in area and population as compared to other States of the country, yet it is quite far ahead than most of the States in the field of small scale industries.

In the pre-Independence era, industries in Delhi consisted mainly of foundries, iron and steel fabrication, handicrafts and traditional arts such as ivory carving, gold and silver embroidery, kala-batto and household utensils. These industries were not flourishing well till 1939, when consequent upon the outbreak of the Second World War, a fillip was given to various industries to produce and supply essential war requirements. Later on after the partition of the country, Delhi was faced with the problem of providing employment to the refugees who had migrated from Pakistan. To rehabilitate them, assistance in the form of finance, machinery, raw materials etc. was provided by the Government. This

*A view of the Okhla Industrial Estate, New Delhi*

*Shri Fakhruddin Ali Ahmed, former Minister for I.D., I.T. & C.A., Government of India, visiting an exhibition organised by SISI, New Delhi.*

led to the rapid growth of several industrial units throughout Delhi.

Since 1950, the metropolis has witnessed a remarkable growth in the industrial activities as is evident from Table I:

TABLE I

| *S. No.* | *Year* | *No. of Units* | *Investment* (Rs. million) | *Employment* |
|---|---|---|---|---|
| 1. | 1951 | 8,160 | 180 | 69,266 |
| 2. | 1965 | 19,038 | 810 | 159,731 |
| 3. | 1968 | 23,474 | 1,120 | 184,180 |

Out of the total number of units in 1968, 23,418 were small scale and cottage industries with an investment of Rs. 660 million, producing goods worth Rs. 1,560 million, and employing 145,519 persons. Table II highlights the contribution of small scale and cottage industries in the overall industrial development of Delhi.

TABLE II

STATISTICAL DATA ABOUT INDUSTRIAL UNITS IN DELHI (1968)

| | *Industrial units* | *Small Scale including cottage* | *Percentage of Col. No. 3 to 2* |
|---|---|---|---|
| No. of Units | 23,474 | 28,418 | 99.7 |
| Investment | Rs. 1,120 million | 660 million | 58.9 |
| Production | Rs. 271 million | 1,560 million | 57.5 |
| Employment (Nos.) | 184,180 | 145,519 | 79.0 |

During the last decade and a half, a large number of units have started manufacturing a wide range of items such as razor blades, room and water coolers, cycles, sewing machines, machine tools, surgical and scientific instruments, automobile parts and accessories, tape recorders, television sets, transistor radios, electrical appliances, plastic utility and novelty articles, chemical and pharmaceutical items etc. etc.

The classification of the industries, according to major industry groups, number of units in each group alongwith the investment, production and employment during 1968-69 is given in Table III.

TABLE III

| *Major Groups* | *No. of Units* | *Invest-ment in Rs. million* | *Produc-tion mil-lion* | *Total Employ-ment* |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 20 Food Mfr. Industries | 2,067 | 142.4 | 860.5 | 12,736 |
| 21 Beverage Industries | 25 | 18.4 | 29.4 | 1,169 |
| 22 Tobacco Mfr. | 17 | 6.0 | 2.9 | 176 |
| 23 Mfg. of Textiles | 2,100 | 275.0 | 425.0 | 35,069 |
| 24 Mfr. of Footwear, other wearing apparel and made up Textile goods | 2,211 | 18.1 | 56.5 | 7,514 |
| 25 Mfr. of Wood and Cork except Furniture | 1,037 | 7.4 | 19.4 | 3,100 |
| 26 Mfr. of Furniture and Fixture | 541 | 8.5 | 26.2 | 3,125 |
| 27 Mfr. of Paper and Paper Products | 417 | 6.4 | 15.1 | 1,735 |
| 28 Printing, Publishing and Allied Ind. | 1,357 | 108.2 | 130.0 | 16,004 |
| 29 Leather and Fur-Products except Footwear | 187 | 1.9 | 20.7 | 835 |
| 30 Mfr. of Rubber Products | 439 | 12.1 | 27.8 | c2,626 |
| 31 Mfr. of Chemicals including chemical products | 490 | 85.6 | 168.6 | 6,032 |
| 32 Mfr. of products of Petroleum and Coal | 15 | 4.0 | 01.8 | 94 |
| 33 Mfr. of structural clay products | 1,679 | 43.7 | 110.3 | 25,507 |
| 34 Basic Metal Industries | 571 | 70.0 | 86.4 | 5,384 |
| 35 Mfr. of Metal Products | 2,269 | 73.8 | 158.1 | 14,266 |
| 36 Mfr. of Machinery other than Electrical Machinery | 1,584 | 93.0 | 142.1 | 12,259 |
| 37 Mfr. of electrical machinery | 1,738 | 100.9 | 216.0 | 13,862 |
| 38 Mfr. of Transport | 2,130 | 171.1 | 181.2 | 17,984 |
| 39 Miscellaneous Mfg. Industries | 2,145 | 48.9 | 107.0 | 10,315 |
| 40 Laundries | 527 | 6.8 | 11.5 | 1,919 |
| Total: | 23,496 | 1,293.2 | 2,797.4 | 192,711 |

It will be seen from the above table that the industries, like Food processing, Footwear, Wearing apparels, Printing and Publishing, manufacturing of structural products, basic metal industries, manufacturing of machinery and transportation equipment etc. have made a tremendous progress during the course of last two decades. The investment as well as the production of the above mentioned industries have increased manifold giving employment to a large number of people in the Union Territory of Delhi. It is also heartening to know that items like footwear, machine tools, automobile parts are not only sold within the country but are also being exported to foreign countries. In addition to these industries, a good number of small enterprises have also come up for the manufacture of paper and paper products, rubber products, chemical products etc.

About 1,700 new industrial units have come up during the year 1969-70. In this connection it may also be mentioned that inspite of the various difficulties like high prices of land in Delhi, scarcity of raw materials, paucity of funds etc., the number of small scale units has been steadily increasing in Delhi during the last two decades.

The most striking feature of the growth of the small scale industries sector under the successive five year plans has been gradual evolution of conventional industries with a preponderance of house-hold units at the beginning of the First Five Year Plan into modern industrial enterprises using machines

*Get-together of Small Industrialists of New Delhi. Shri Fakhruddin Ali Ahmed addressing the Small Industrialists.*

and power and turning out sophisticated consumer goods and simple producer items. This has been made possible on account of the comprehensive assistance programme implemented by the Government of India through the Small Scale Industries Development Organisation, the State Industries Directorate, and other related agencies. Amongst the various types of assistance rendered by the different departments, mention may be made of the following:—

(i) Extension services rendered by Small Industries Service Institute.

(ii) Supply of machinery on hire-purchase basis by the NSIC Ltd. (a Government of India undertaking).

(iii) Enlistment of Small Scale units for participation in the Central Government Stores Purchase Programme.

(iv) Provision of sheds in Industrial Estates.

(v) Facilities like supply of raw material, power, finance etc. provided by the State Directorate of Industries, Delhi.

(vi) Credit facilities extended by the State Bank of India, its subsidiaries, commercial banks, State Financial Corporation etc.

**Assistance Provided by SISI for Development of Industries**

The SISI, New Delhi has played a very important role in the development of small scale industries in Delhi. Being a technical consultancy and indus-

*Shri M.R. Krishna, Deputy Minister for I.D. & I.T., Govt. of India speaking on the occasion of the Seminar on Essential Oils organised by the SISI, New Delhi and the Essential Oils and Aromatic Chemicals Manufacturers' Association of India at New Delhi. On the extreme left is Shri K.L. Nanjappa, DC(SSI) and on the extreme right is Dr. H.A. Shah, Director, SISI, New Delhi.*

trial extension service institution, it has made its impact felt in a considerable way. The SISI, New Delhi besides furnishing information about the facilities provided by different organisations, also assists small industrialists and prospective entrepreneurs to take up the manufacture of new products, to diversify production and in obtaining new designs and drawings and information on import substitution. During the year 1969-70, officers of SISI, New Delhi contacted 7,500 entrepreneurs, rendered technical advice to 2,700 units and provided assistance and guidance to 4,100 prospective entrepreneurs. The SISI, New Delhi has also helped the units to enlist themselves for participation in the Central Government Stores Purchase Programme.

The Institute assisted small scale units in manufacturing and supplying components and parts to the large scale units like M/s. Escorts Ltd., M/s. K.G. Khosla, M/s. Electronics Ltd. etc. As a result of the efforts of the officers of the Institute, a number of new items manufactured in the small scale sector are now being purchased by the large manufacturing units as original equipment.

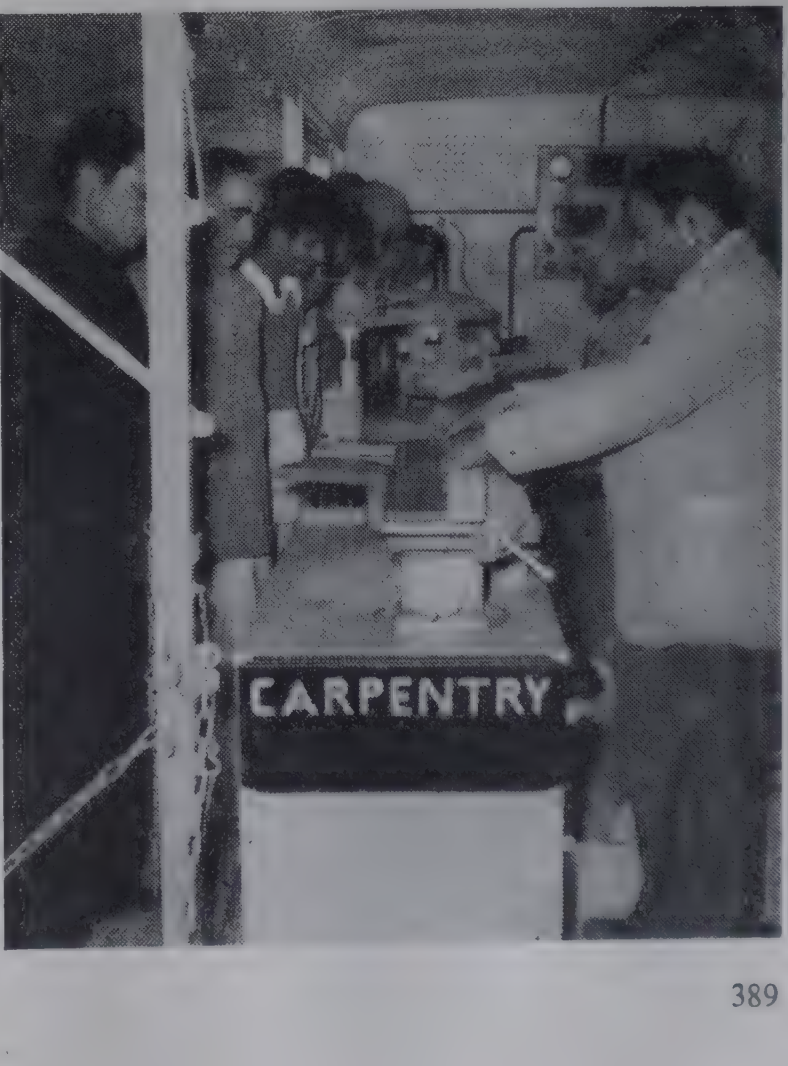
### New Product-Designs Introduced

Small Industries Service Institute, New Delhi has a special cell of Industrial Design to assist and advise small scale industries/entrepreneurs to manufacture products which will have functional utility and aesthetic appeal coupled with economy and convenience in manufacturing. The Industrial Design Cell of this Institute has prepared more than 5,300 designs and drawings, issued many blue-prints and developed a number of prototypes for commercial exploitation. The Industrial Design Cell provides designs to small scale units in the fields of domestic utensils, electrical appliances, furniture, ceramics, leather goods, toys, cutlery, hardware etc. taking into consideration the production facilities, availability of raw materials, components and parts, production costs and market price.

### Financial Assistance

Besides technical assistance, Small Industries Service Institute also assists the small scale units in obtaining financial assistance from the State Bank of India, its subsidiary banks, other commercial banks and Delhi Financial Corporation by furnishing them with technical reports on the capacity, competence and prospects of small scale units

*Mobile Demonstration Workshop (Carpentry) of the SISI, New Delhi at Ghaziabad. A demonstration of the working of the Jointer Planer is being watched by the local carpenters.*



*Shri Jagjivan Ram, former Minister for Food, Govt. of India inaugurating the Exhibition on Food-based Industries organised in New Delhi.*

which apply for financial assistance. On an average, 400 technical reports are being furnished to different banks by this Institute every year. In addition, techno-economic feasibility reports are also furnished to these banks on the projects submitted by qualified entrepreneurs who are financed up to a limit of Rs. 200,000 in case of single entrepreneur and Rs. 300,000 in case of two entrepreneurs in partnership.

**Loans under State Aid to Industries Act/Rules**

Loans under State Aid to Industries Act are provided by the Director of Industries, Delhi on easy terms for the purchase of machinery and equipment, working capital and erection of factory premises. The repayments are spread over a period of 10 years and bear a concessional rate of interest. The loans sanctioned to industrial units in Delhi during the last five years are as follows:—

| *Year* | *Amount of advance (Rs. million)* |
|---|---|
| 1965-66 | 1.15 |
| 1966-67 | 1.16 |
| 1967-68 | 1.15 |
| 1968-69 | 1.50 |
| 1969-70 | 2.20 |

**National Small Industries Corporation Ltd.**

The National Small Industries Corporation Ltd., a Central Government undertaking, supplies machinery on hire-purchase basis to the existing small enterprises and new entrepreneurs in the country. The scheme is intended to equip small scale units with latest machines and tools so that they can expand/modernise their units, without straining their capital resources.

In the Union Territory of Delhi, the demand for machines on hire-purchase basis is increasing with the growth of small scale industries as is evident from the following table showing year-wise progress of the receipt of the applications, the orders placed, machinery delivered etc.

HIRE-PURCHASE OF MACHINERY

*(Value in Rs. million)*

| | '65-66 | '66-67 | '67-68 | '68-69 | '69-70 |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| 1. Applications received | 3.92 | 4.09 | 3.48 | 4.78 | 5.16 |
| 2. Applications accepted | 1.40 | 0.59 | 1.88 | 2.25 | 3.86 |
| 3. Orders placed | 0.67 | 0.84 | 0.92 | 0.85 | 1.51 |
| 4. Machines delivered | 2.54 | 1.65 | 3.20 | 2.67 | 1.29 |

**Industrial Estates**

For providing suitable accommodation to Small scale units construction of an industrial estate was undertaken during the First Five Year Plan by the National Small Industries Corporation at Okhla. At present, the Industrial Estate Okhla has been taken over by the Delhi Administration. Subsequently, a rural industrial estate was established at Badli, a rural area of Delhi.

In the two industrial estates, 129 sheds have been constructed and allotted. The production of units in Industrial Estate Okhla during the year 1968-69 was of the order of Rs. 40 million and it is providing employment to more than 4,000 workers.

**Fourth Five Year Plan**

For consolidating the growth already achieved and accelerating the pace of development of industries, an expenditure of Rs. 47.45 million has been proposed in the Fourth Plan of Delhi. The Department of Industries has proposed a number of schemes viz. (a) Block loans for the construction of new industrial premises, (b) Common facility centres for Electronics Industry, Sports Goods Industry and Leather Goods Industry, (c) Setting up of a Small Industries Development Corporation, (d) Setting up of a permanent Exhibition-cum-Emporium, (e) Quality marking scheme for household electrical appliances, and (f) Cost Reduction and Industrial Consultancy Cell.

In addition to the above mentioned schemes, it is also proposed to develop industrial plots around the Badli Industrial Estate, to set up rural industrial estates and functional industrial estates for Plastic, Electronics, Electrical goods and flatted factories for leather goods industry in Delhi State. It is hoped that with the setting up of these estates, the development and expansion of the industries in Delhi will be facilitated to a great extent.

There is a proposal to set up an Export Promotion Corporation which will function on the lines of a commercial house. It will purchase goods from the small scale industrial units and market them in foreign countries.

The units in Delhi have exported goods worth Rs. 40 million during the year 1968-69. For formulation of Export Promotion Policies, an Export Advisory Board for Delhi has already been constituted. The Industries Department is also giving a preferential treatment to small scale units engaged in exports in the issue of essentiality certificates for raw materials, in granting financial assistance as well as in the procurement of land in the Industrial Areas.

# GOA

PRIOR to liberation in 1961 there were hardly any industries in Goa. Besides the mining industry, there were a few rice mills, auto-repair workshops and a Mangalore tiles factory. Due to continued foreign rule and economic blockade, Goa remained completely cut off from the industrial and economic progress made in India. With large exports of iron-ore and imports of consumer goods, trade and commerce was more attractive than industry. The market was also limited. No wonder, therefore, that the only few small scale industries which came up were for such simple items as candles and washing soap.

Soon after liberation the main task was to create the necessary climate for industrialisation and provide the infra-structure for attracting the industries. Due to the efforts of various Government and Semi-Government agencies and of some enlightened industrialists and entrepreneurs, it did not take long to create the climate for development of industries. In fact, the enthusiasm was so much in the beginning that it was difficult for the Government to provide the required power and water needed by the various industries in the short period. There was no dearth of capital. Inspite of non-availability of skilled labour many daring entrepreneurs came forward to risk their capital and started new industries.

With only about 60 small scale units in 1960 prior to liberation, the number had gone up to nearly 500 by the end of March, 1969 and is probably around 550 by now. Considering the various difficulties enumerated above, the growth must be considered quite substantial. The largest concentration of units is in Margao with over 100 units. Ponda, Bicholim, Panaji, Curchorem and Mapusa are the other developing centres. The existing small scale units have a total fixed capital investment of about Rs. 30 million and provide employment to about 6,250 persons which accounts for nearly 62.5 per cent of the total employment in the industrial sector. The value of production and earnings through repairs and servicing of the units in 1969-70 was about Rs. 35 million.

The increase in the number of units is accounted for both by the expansion of types of industries which were already existing and the setting up of industries in new lines. The following table will give an idea of the growth of a few selected industries.

TABLE I

TREND IN GROWTH OF SELECTED INDUSTRIES

| *Sl. No.* | *Industry* | *No. of units* | |
|---|---|---|---|
| | | *1961* | *1970* |
| 1. | Automobile Workshops | 23 | 105 |
| 2. | Tyre Retreading | 1 | 28 |
| 3. | Washing Soap | 5 | 13 |
| 4. | Sheet Metal Work | 3 | 15 |
| 5. | Mosaic Tiles | 1 | 6 |
| 6. | Fruit & Fish Canning | 2 | 8 |
| 7. | Wood-Working | 3 | 55 |
| 8. | Printing Press | 31 | 55 |

It will be seen from the above that the maximum growth has been in automobile workshop, tyre-retreading and wood-working industries and further growth in these lines is not desirable.

**New Industries**

Besides the common industries enumerated above which have expanded, a number of some new industries in sophisticated lines have also come up. These are, carbon papers and typewriter ribbons, pesticides, spectacle frames, fountain pens, automobile batteries, polythene bags, marine paints, wick stoves, steel furniture, pharmaceutical items, acrylic plastic sheets, sodium silicate, drinking straws, etc. The value of production of selected products in 1969-70 is given in Table II below:

### TABLE II

PRODUCTION IN SELECTED INDUSTRIES

| *Sl. No.* | *Industry* | *Production (Rs. million)* |
|---|---|---|
| 1. | Fruit and Fish Canning | 3.457 |
| 2. | Washing Soap | 1.558 |
| 3. | Rolled Sections of Steel | 1.194 |
| 4. | Pesticides | 0.376 |
| 5. | Mosaic Tiles | 0.583 |
| 6. | Carbon Papers & Typewriter Ribbons | 1.209 |
| 7. | Spectacle Frames | 0.393 |
| 8. | Roofing Tiles | 0.470 |
| 9. | Storage Batteries | 0.460 |
| 10. | Paints | 0.476 |

Some more new industries are likely to go in production soon. These are for the manufacture of sophisticated items like nylon fishing nets, zip fasteners, potassium permanganate, cosmetics, PVC (Plastic) shoes, bifocal lenses, corrugated board containers, anodised metal labels etc.

Considering the size of the territory and the initial handicaps, the progress of small scale industries in Goa so far is quite encouraging. This growth has been possible due to the efforts of the Small Industries Service Institute and other agencies such as Directorate of Industries, the Maharashtra Small Scale Industries Development Corporation, Maharashtra State Financial Corporation etc. which established branch offices here soon after liberation. The State Bank of India and other commercial banks have also contributed to this growth by providing loans for working capital requirements of small scale units.

**Prospects**

Since the scope for industries based on local resources and demand will be necessarily very limited in view of the small area of this Union Territory, any further growth of small scale industries in Goa has to be based on marketing possibilities in the surrounding States and areas. Also in view of the high cost and shortage of labour, high cost of power etc., the items to be selected for manufacture would have to be, by and large, sophisticated in nature and of high value in general. This would enable to offset to a certain extent the cost of transport to long distances. Taking all these factors into consideration, this Institute had organised a Small Industry Exhibition and Conference in May, 1970. Sophisticated products made by small scale industries in Bombay and other places were displayed for a week. The exhibition was visited by over 2,000 persons. As a result of this, more and more entrepreneurs are now coming forward to set up new small scale industries. This is reflected in the waiting list for sheds in Industrial Estates at Panaji and Margao, where all sheds were not in demand before. Besides, Industrial Estates at Mapusa, Vasco and Daman are also being planned by the State Government to accommodate new small enterprises likely to come up in these centres.

*A seminar on Agro-Industries held at Mapusa, Goa. Shri G.G. Sutaone, Deputy Director in-charge speaking at the Seminar.*

With the completion of work on the expansion and modernisation of Mormugao harbour by 1972-73, facilities will be available for direct imports and exports. This will reduce the handling cost of imported raw materials. Similarly, the exports would be more competitive. Hence, there is good scope for starting export-oriented small scale industries. Parts and components of automobiles, bicycles, sewing machines, etc. have a good and expanding export market. It is high time that some of the hundred or so automobile repair workshops step into these lines which will be more profitable for them as well as for the country.

The Goa Fertiliser Project and some other large scale industries which are shortly coming up, the possibility of a steel plant or a pig-iron plant, a petroleum refinery, etc. are bound to create ample scope for a number of ancillary, auxiliary and feeder industries, as well as service industries. The small scale entrepreneurs should start thinking seriously from now onwards and plan accordingly so that they will be able to cash on the opportunities which are bound to come up. As it takes at least a couple of years for any new enterprise to be established, advance planning is essential in order to go through all the formalities of getting land, power, water, building a shed, securing machinery etc.

The Small Industries Service Institute, Margao which is the local office of the Small Scale Industries Development Organisation (SSIDO) gives all possible assistance and guidance to existing and prospective small scale entrepreneurs in starting, expanding, modernising and managing small scale industries.

The uptodate progress of the Institute in the various fields of activity is illustrated in the tables given below:

TABLE III

EXTENSION SERVICE (1969-70)

| *Type of assistance* | *No. of parties assisted* |
|---|---|
| 1. No. of parties given purely technical advice. | 1,079 |
| 2. No. of parties given information to start new industries. | 431 |
| 3. No. of parties given economic information. | 641 |
| 4. No. of parties given other assistance. | 1,581 |

The credit facilities extended to small scale industries in the Union Territory of Goa, Diu and Daman by various Institutions are indicated in the Table given below:

TABLE IV

FINANCIAL ASSISTANCE TO SMALL SCALE UNITS IN GOA (GOVERNMENT, R.I.P., BANKS, ETC.)

| *Year* | *Loans granted (Rs. million)* |
|---|---|
| 1964-65 | 0.362 |
| 1965-66 | 3.904 |
| 1966-67 | 2.700 |
| 1967-68 | 12.284 |
| 1968-69 | 14.077 |
| 1969-70 | 18.527 |

*Mr. Anthony D'Souza, Industries Minister, Union Territory of Goa, placing a garland on a diesel engine manufactured for the first time by a small scale engineering unit at Goa*

TABLE V

FINANCIAL ASSISTANCE TO SMALL SCALE UNITS IN GOA—1969-70 (AGENCYWISE)

| *Agency* | *Loans granted (Rs. million)* |
|---|---|
| 1. Directorate of Industries | 0.158 |
| 2. Rural Industries Project. | 0.360 |
| 3. Maharashtra State Financial Corporation | 0.619 |
| 4. State Bank of India | 2.809 |
| 5. Other Commercial Banks | 17.792 |
| Total: | 21.414 |

### TABLE VI

Machinery on Hire-purchase Supplied by the National Small Industries Corporation Ltd. (A Government of India Undertaking)

| *Year* | *Value of Machines supplied (Rs. thousands).* |
|---|---|
| 1962-66 | 290 |
| 1966-67 | 372 |
| 1967-68 | 868 |
| 1968-69 | 485 |
| 1969-70 | 33 |
| Total: | 2,048 |

The performance of small scale industries in the field of exports has been quite impressive as will be evident from the Table below:

### TABLE VII

Export of Products of Small Scale Industries

| *Year* | *Value of exports (Rs. million)* |
|---|---|
| 1965-66 | 0.255 |
| 1966-67 | 0.689 |
| 1967-68 | 1.755 |
| 1968-69 | 2.251 |

### TABLE VIII

Service through Small Industries Service Institute Workshop

| | 1966-67 | 1967-68 | 1968-69 | 1969-70 |
|---|---|---|---|---|
| 1. No. of parties who visited the workshop | 351 | 457 | 656 | 594 |
| 2. No. of parties assisted in job works. | 78 | 99 | 154 | 103 |
| 3. No. of drawings and designs prepared. | 437 | 343 | 377 | 377 |
| 4. Revenue earned Rs. | — | — | 3,544 | 7,132 |

### TABLE IX (a)

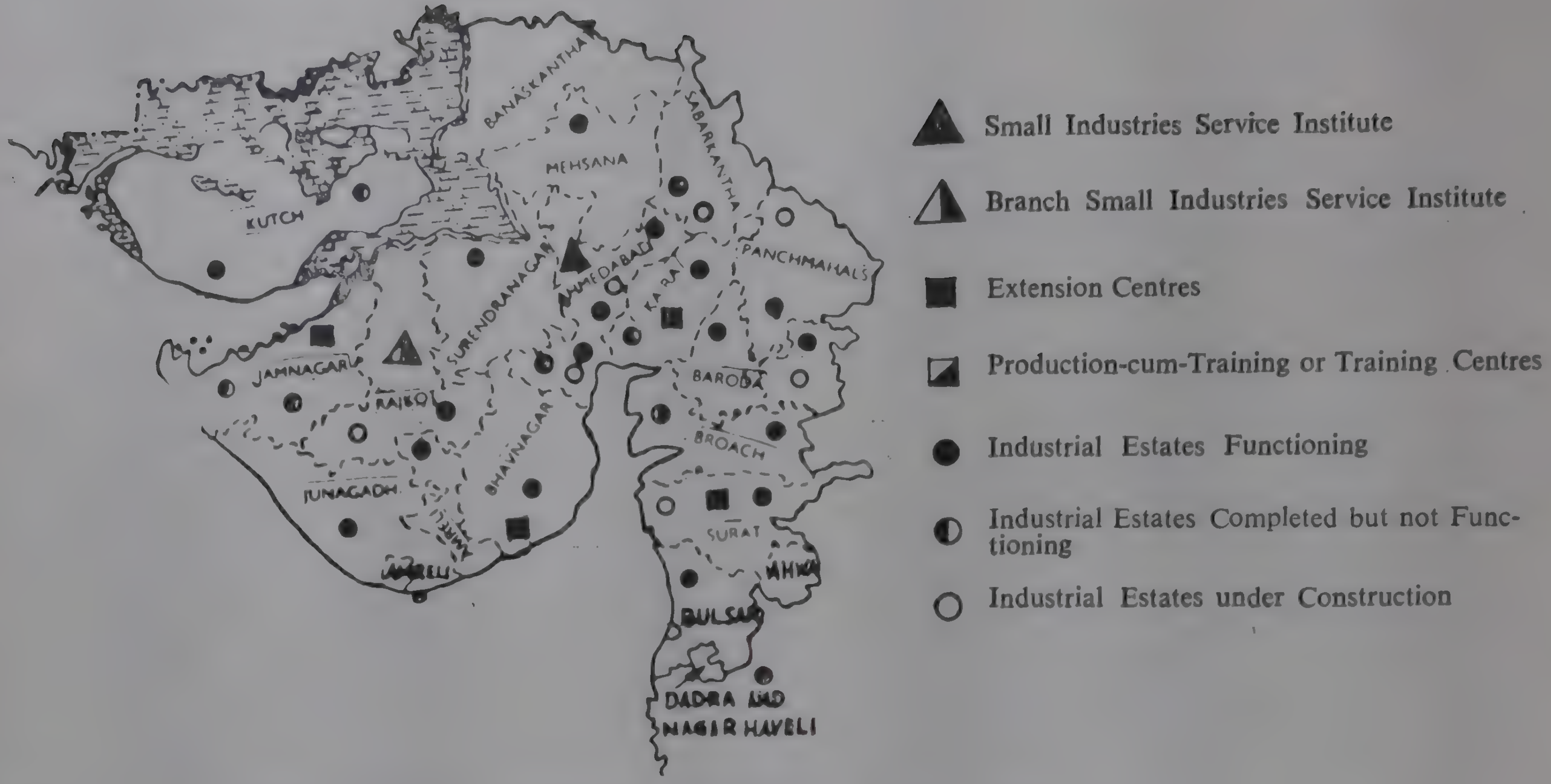
Training Courses Organised by Small Industries Service Institute, Goa

| *Year* | *No. of courses organised* | *Persons trained* |
|---|---|---|
| 1963-64 | 2 | 43 |
| 1964-65 | 1 | 29 |
| 1965-66 | 6 | 116 |
| 1966-67 | 9 | 82 |
| 1967-68 | 10 | 66 |
| 1968-69 | 10 | 114 |
| 1969-70 | 9 | 166 |

### TABLE IX (b)

| *Type of training* | *No. of persons trained during 1969-70* | *No. of persons trained since 1962* |
|---|---|---|
| 1. Industrial Management | 33 | 180 |
| 2. Financial Management and Cost Accounting | — | 51 |
| 3. Machine Shop Practice | 12 | 42 |
| 4. Fitters' Trade | 10 | 38 |
| 5. Heat Treatment | — | 3 |
| 6. Training for Entrepreneurs | 40 | 56 |
| 7. Blue-Print Reading | 19 | 59 |
| 8. Chalk Sticks, Plaster Products & Cosmetics | — | 23 |
| 9. Soap Technology | — | 18 |
| 10. Fruit & Vegetable Preservation | 52 | 134 |
| 11. Export Marketing | — | 12 |

# GUJARAT


KUTCH
BANASKANTHA
MEHSANA
SABARKANTHA
PANCHMAHALS
AHMEDABAD
KAIRA
SURENDRANAGAR
JAMNAGAR
RAJKOT
BARODA
BROACH
JUNAGADH
BHAVNAGAR
AMRELI
SURAT
AHWA
BULSAR
DADRA AND NAGAR HAVELI
▲ Small Industries Service Institute
△ Branch Small Industries Service Institute
■ Extension Centres
◩ Production-cum-Training or Training Centres
● Industrial Estates Functioning
◐ Industrial Estates Completed but not Functioning
○ Industrial Estates under Construction

Based upon Survey of India map with the permission of the Surveyor General of India.
The territorial waters of India extend into the Sea to a distance of twelve nautical miles measured from the appropriate base line.
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GUJARAT has been well known throughout the country for its textile industry. Perhaps it was the only important large scale industry in the State, prior to the formation of the Gujarat State in 1960 by the bifurcation of erstwhile Bombay State, which proved to be the backbone of the industrial development in the State. Small scale industries developed quite rapidly during the last decade and its phenomenal growth can be seen from the number of units registered with the Industries Commissioner's Office during this period. The registration in the Sector has increased from 2,169 units in 1961 to 13,461 units in 1969. This increase has not only been cumulative but the new units established in each area also recorded a progressive increase. Details of year-wise registration are given in Table 1.

Besides, there are a number of unregistered units in the State, as the registration of small scale units with the State Industries Department is voluntary, and these units will have to be taken into account to get complete picture of the small industry sector in the State. On a rough estimate the total number of small scale units in the State may be placed at 20,000 at present.

TABLE I

NO. OF REGISTERED SMALL SCALE UNITS IN GUJARAT STATE

| *Year* | *Units registered during the year* | *Cumulative increase* |
|---|---|---|
| 1961 | 2,169 | — |
| 1962 | 1,006 | 3,175 |
| 1963 | 996 | 4.168 |
| 1964 | 959 | 5,127 |
| 1965 | 816 | 5,943 |
| 1966 | 1,479 | 7,422 |
| 1967 | 1,723 | 9,143 |
| 1968 | 1,727 | 10.870 |
| 1969 | 2,591 | 13.461 |

### Industrial Centres and Items Manufactured

As already stated earlier, textile industry is the backbone of the industrial structure of the State. For servicing the textile industry, there are a number

*The front view of the SISI at Ahmedabad, Gujarat*

of small scale units in the State manufacturing textile parts and stores for replacement, chemicals and other requirements of the industry. They are mostly concentrated in Ahmedabad, as is the textile industry.

The development of small scale sector of industry during the last decade is mainly due to various promotional programmes of the State and the Central Governments for the development of small scale industries. These together with the ingenuity and business acumen of Gujaratis gave an impetus to industrial activity in the State within a short period. Apart from Ahmedabad, tremendous growth of industries is also seen in centres like Rajkot, Jamnagar, Surat, Baroda, Bhavanagar, Surendranagar, Morvi, Nadiad, Bilimora, Bulsar etc.

*RAJKOT* is one of the biggest centres in the country for the manufacture of diesel engines and their parts. It is also one of the centres for the manufacture of wire nails and shoe tacks manufacturing machines and other sophisticated items like connecting rods, gaskets, thrust bearings, gears, gudgeon pins, valves, watches and watch cases, cylinder liners etc.

*JAMNAGAR* has specialised in the manufacture of brass parts required by industries manufacturing stove, petromax, electrical accessoris, radios, bicycles, oil engines, spectacle frames etc. In addition to the brass parts, Jamnagar specialises in the manufacture of nylon buttons and plastic novelities. The centre is also known for the fabrication of the equipment to manufacture these items.

*SURAT* has been known for centuries for its zari (lace) industries. Nowadays it is better known for its art silk industry. Apart from this the centre is known for the manufacture of zari making machinery, sewing machine parts, agricultural machinery, wood working machinery, machine tools, textile machinery, electrical machinery, gas cylinder parts, diamond cutting and polishing etc. It is a leading centre in the country for the manufacture of brass cocks which are also being exported.

The small scale units in Udhna Industrial Estate, on the out skirts of *Surat*, are manufacturing sophisticated items like electrical machinery, water heaters, thermostats, switch boxes, time pieces, printing press rolls, pharmaceuticals, dyes, surface grinders, electric motors, metal perforated sheets, industrial woven screens, cinema projectors etc.

Of late, Baroda is emerging as a big industrial centre, manufacturing variety of items, some of which are chemicals, pharmaceuticals, machine tools, metal re-rolling, spectacle frames and lenses.

*BHAVANAGAR* is known for the manufacture of marine chemicals and machinery parts; *Surendranagar* for producing textile spinning parts of high accuracy and other precision parts; *Morvi* for the manufacture of roofing tiles, wall clocks etc., *Palitana* for harmonium reeds; *Nadiad* for hub-drums, cutlery items and so on.

During the last three to four years, *Bulsar* along

*An Open House Discussion held in March 1970 in Ahmedabad*

OPEN HOUSE DISCUSSION
ON
DEVELOPMENT of PLASTIC INDUSTRIES in GUJARAT

*A view of the Branch SISI at Rajkot*

with a few other centres in the district viz., Vapi, Umbergaon, Bilimora and Navasari are coming up very fast and a number of small scale units have already been established to manufacture variety of items like agricultural implements, drums and barrels, automobile ancillaries, domestic flour mills, electricals accessories, flush doors, paper and boards, chemicals and pharmaceuticals, rubber and plastic items, fountain pens, nibs, ball point pens, utensils, textile wooden parts etc. Atul Complex in the area has given good scope for small scale industries to manufacture ancillary items.

The type of industries and the number of registered units in each industry are given in Table II below.

TABLE II

INDUSTRY-WISE BREAK-UP OF SMALL SCALE UNITS IN GUJARAT STATE AS ON 31-12-1969

| | *Industry Group* | *No. of units as on* 31-12-1969 |
|---|---|---|
| 1. | Food Products | 790 |
| 2. | Textiles | 2,412 |
| 3. | Leather Industries | 59 |
| 4. | Chemical Industries | 2,231 |
| 5. | Mech. Engg. Industries | 4,677 |
| 6. | Electrical Industries | 325 |
| 7. | Miscellaneous Industries | 2,967 |
| | Total: | 13,461 |

**Employment and Investment**

The total employment in 13,461 registered units was 150,200 workers with an investment of about Rs. 336.3 million. There were number of small scale units which have not been covered by the registration and it is estimated that about 7,000 more units employing about 50,000 workers were in this sector. In the year 1969, there were about 20,000 small scale units employing about 0.2 million workers in the State. On the basis of Annual Survey of Industries data, it is worked out that the employment in the small scale sector was about 36% of the total employment in the industry sector of the State.

**Excellent Future Industrial Prospects**

Gujaratis are known for their business acumen and there is no dearth of entrepreneurship and finance in the State. Moreover, Gujaratis settled in Africa are now coming back and are eager to invest a good amount of funds in small scale sector of industry in the State. Even Gujarati businessmen and industrialists from Calcutta as well as from Bombay are coming back to their own State with their technical know-how, skill, and machinery, if possible, because of the prevailing labour peace and helpful atmosphere in Gujarat.

Discovery of natural oil has opened a new vista of development in the history of Gujarat State. On the completion of the Koyali Refinery Project near Baroda, the raw materials for many small scale industries viz., for the manufacture of plastics, dyes and intermediates, pesticides etc. will be available in the State. The proposed Steel Plant at Bhavanagar will boost up the industrial activities in that area. The coastal line of the State has already proved a boon to the State which is producing more than 50 per cent of the salt production in the country. A number of salt and marine based industries are coming up all over the State, showing the way to the bright future of industrialisation in the State.

The industrial development in the State, particularly in the small scale sector, has been duly supported by the various programmes and assistances through number of Government and Semi-Government Institutions in the State. The noteworthy amongst these are the Small Industries Service Institute, Industries Commissioner's Office, Gujarat Small Industries Corporation, Gujarat State Financial Corporation, Gujarat Industrial Investment Corporation, Gujarat Industrial Development Corporation, Gujarat Export Corporation, State Bank of India and other commercial banks.

*"Udyognagar" at Rajkot—the first industrial estate in the country*

**Gujarat Small Industries Corporation** is providing scarce and controlled raw-materials to small scale units by making bulk purchase and distributing it through their depots. It also gives indigenous machinery on hire-purchase and so far 200 small scale units have taken machinery worth about Rs. 4.4 million for the period 1964 to 1969.

The Corporation also provides help in marketing the production of small scale units by participating in the State Government Purchase Programme and DGS & D.

**National Small Industries Corporation Ltd.** gives machinery on hire-purchase. As on 31-3-1968, the Corporation has given 472 machines valued at Rs. 12.5 million to small scale units in the State.

**Gujarat State Financial Corporation** is assisting small scale units by providing long and medium term credit facilities for fixed assets like land, building and machinery, since 1961. During the last one year the Corporation has given loan of Rs. 36.976 million to 742 small scale units. The activity of the Corporation has been considerably geared up and about 435 small scale units were provided loan amounting to Rs. 23.3 million during the current year 1970. Corporation has also introduced a technical scheme in which liberalised financial assistance will be given to them.

**Gujarat Industrial Investment Corporation** provides equity capital to industries in the State. It has also a scheme to provide loans to technicians under a liberalised scheme. So far, 250 technicians have been provided loan worth Rs. 20 million. During 1969 the Corporation had introduced a scheme of providing loan for establishment of rural workshops. Under this scheme 35 workshops were established so far.

**Gujarat Industrial Development Corporation** is helping in creation of infra-structural facilities for small scale units in different parts of the State. It also provides industrial sheds with facilities of power, water etc. for small scale units. Various industrial areas have been developed by the Corporation not only

*Assembly and testing sections of one of the units in Rajkot which is a famous centre for the manufacture of Diesel Engines where about 250 units are engaged in this industry*

in the areas of concentration of industries but also in remote rural areas. The total number of industrial estates are about 18 and industrial areas are 22. The total number of industrial sheds constructed in various industrial estates are about 1,200. In order to develop infra-structure facilities in Rural, Backward and Adivasi areas, techno-economic survey reports have been prepared. This study will considerably help in establishment of industrial estates in such areas of the State.

**Gujarat Export Corporation** which has been established three years back, is one of the organisations assisting small scale units in the State. It has been making considerable effort in development of export markets for the various industries. In this context, it is also trying to develop export market for the small scale sector. The products exported from the State by the small scale units are Diesel Engines, Centrifugal Pumps, Dies, Chokes, Pencils, ACSR Conductors, Hub Drums of automobile etc. During the current year 1970-71, the Corporation expects to export goods worth Rs. 7.5 million as compared to Rs. 3.4 million during 1969-70.

**The State Bank of India** is advancing short-term loans to small scale industries under the lock and key or the factory type arrangement. The Bank also

*Practical Training being given to workers at the Extension Centre, Nadiad*

advances medium term loans for periods upto 10 years. The Bank grants loans upto Rs. 0.2 to technicians and craftsmen to start small scale industries. The loan is provided both for fixed and working capital.

**Small Industries Service Institute, Gujarat—at Work**

The Small Industries Service Institute, Ahmedabad, Branch Institute at Rajkot, Extension Centres at Nadiad, Udhna, Jamnagar, Bhavanagar and Savarkundla are engaged in the development of small industries. The main assistance provided by the Institute and its Extension Centres includes both technical and management consultancy and economic information besides training in various managerial and technical trades. At present, there are technical officers for Mechanical Engineering, Metallurgical, Chemical and Leather Footwear Trades besides Economic Investigation and Industrial Management and Training.

**Technical Assistance**

The technical assistance rendered by the Institute and its Extension Centres involves a careful study of the problems posed by the Small Scale Industries and finding appropriate solutions to overcome them for rendering such services effective. Technical assistance generally includes:—

(a) Advice on improved technical processes and use of modern machines and equipment;

(b) Preparation of drawings for machines and machine parts equipment, dies, tools and fixtures;

(c) Demonstration of the use of modern technical processes, through workshops and mobile workshops;

(d) Research on the proper use of equipment, improved design of machinery, etc;

(e) Training in various technical trades like foundry, heat-treatment, machine shop and blue-print reading, etc. for the benefit of the small industrialists and artisans;

(f) Development of ancillary units; and

(g) Information Centre on all technical matters to small industries.

Technical officers qualified in various trades who are specialists in their respective fields of work are stationed at the Institutes/Extension Centres. The officers give advice to small industrialists visiting the Institutes/Extension Centres and also at the enterprise concerned, where they give practical help on the spot. The tempo of this activity has been kept up during the last decade as would be revealed from the details given in Table III.

TABLE III

**Technical Assistance rendered by SISI Gujarat**

| *Year* | *No. of visits paid to render on-the-spot advice* | *Parties given purely technical assistance* | *Parties given information to start new industries* | *Parties given other assistance* |
|---|---|---|---|---|
| 1961-62 | 3,267 | 5,463 | 705 | 3,264 |
| 1962-63 | 3 960 | 3,480 | 2,262 | 3,408 |
| 1963-64 | 3,954 | 3,546 | 1,519 | 3,896 |
| 1964-65 | 4,222 | 3,656 | 1,492 | 3,924 |
| 1965-66 | 3,413 | 3,197 | 1,352 | 5,803 |
| 1966-67 | 2,418 | 2,993 | 1,022 | 6,022 |
| 1968-69 | 3,687 | 2,000 | 1,200 | 5,000 |
| 1968-69 | 3,965 | 2,177 | 1,824 | 6,119 |
| 1969-70 | 4,562 | 2,690 | 2,092 | 5,607 |

*Chemical analysis of electroplating salts, solutions and plated surfaces being conducted at the Industrial Extension Centre, Jamnagar*

**Significant Instances of Technical Assistance**

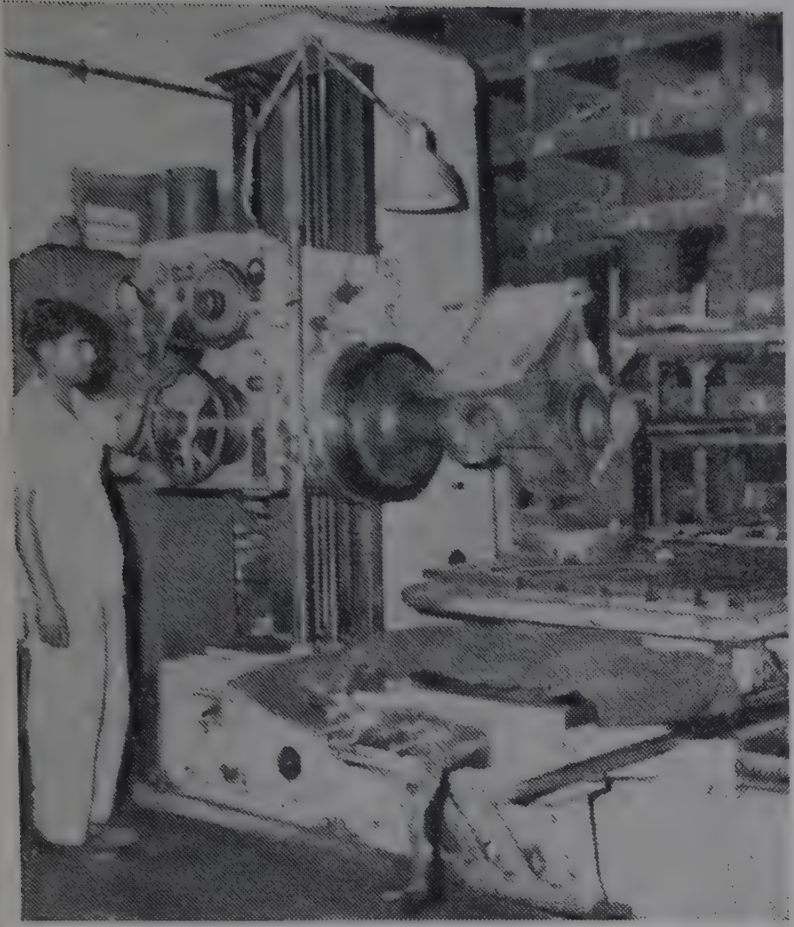
Significant instances of technical assistance related to the appraisal of correct or improved method of processing raw materials, rectification of defects in machinery and equipment, development and fabrication of new devices, jigs and fixtures, prototypes, improvement of the designs and removal of defects in the products manufactured by small enterprises. Such instances of technical assistance were given to the following industries: gravity die casting, manufacture of collapsible tubes, rubber footwear, centrifugal pumps, PVC extruded products, luster composition, etc. to mention only a few significant ones.

**Management and Technical Training**

Management courses were designed for small entrepreneurs and their employees engaged in management and supervisory responsibilities. Besides, technical courses were conducted in order to enhance technical skill of workers engaged in various types of small scale units. Table IV on page 403 gives the number of persons trained in various management and technical courses.

**Economic Investigation and Information Service**

Economic information is being furnished to the existing and prospective enterpreneurs by post and in person. This covers various aspects such as demand, future prospects, existing position about production, raw materials, financial assistance provided by various Instistutions etc. During 1969-70 as many as 936 per-



*Boring operation of a diesel engine body on a precision boring machine in one of the units in Rajkot*

TABLE IV

NO. OF PERSONS TRAINED IN VARIOUS MANAGEMENT AND TECHNICAL COURSES

| Year | *No. of persons trained in Industrial Management Courses* | *No. of persons trained in Technical Courses* |
|---|---|---|
| 1961-62 | 76 | 39 |
| 1962-63 | 67 | 47 |
| 1963-64 | 82 | 40 |
| 1964-65 | 130 | 86 |
| 1965-66 | 258 | 238 |
| 1966-67 | 243 | 310 |
| 1967-68 | 351 | 215 |
| 1968-69 | 244 | 183 |
| 1969-70 | 325 | 149 |

sons were supplied economic information by post as well as in person for starting various types of industries.

**Area Surveys**

Area surveys have been conducted in 5 districts viz. Sabarkantha, Banaskantha, Bhavanagar, Junagadh and Bulsar. An Officer of E.I. Section was associated with the Industries Commissioner's Office to undertake an industry potentiality survey of Panchmahal district. These surveys are conducted with a view to studying the industrial potential of the area keeping in view the resources available in the area and its adjoining areas. A study is also made regarding the problems faced by the existing units and solutions to overcome the same.

*Shri Hitendra Desai, Chief Minister and Industries Minister, Government of Gujarat on a visit to the Exhibition of Food and Fruit Products held in Ahmedabad*

In addition to the economic information and area surveys, Industry Prospect Sheets are prepared to study the development prospects of particular items or products. Over 250 such studies have been made in the State.

**Special Studies**

(i) On the request of the Chairman, Gujarat Industrial Development Corporation, this Institute undertook industry potentiality surveys of 19 rural, backward and adivasi areas, one each in each district and suggested to the Corporation the construction of industrial estate at these places for promoting the growth of small enterprises in these areas.

(ii) A special study of Kodinar Taluka was undertaken by the Institute to study the impact of electrification programme in that area.

(iii) Another Special study was undertaken of the coastal area of Panar with a view to find out industry potentiality of the area and to assess the possibility of developing the area into a salt-based industries complex.

*Machine Shop section of the Industrial Extension Centre, Bhavanagar*

### Open House Discussions

A series of open house discussions were arranged to provide opportunities to the participant industrialists and entrepreneurs to get together and to share the knowledge of experts and experience of industrialists in solving various technical and other problems also to consider the possibilities of developing new industries. Open house discussions on the following subjects were held:—

(1) Utilisation of Sea-water and Sea-weeds;
(2) Preventive Maintenance in Small Scale Sector;
(3) Utilisation of Forest Resources of Gujarat;
(4) Tanning of Leather and Footwear Industry;
(5) Development of Plastic Industries in Gujarat;
(6) Fruit and Food Preservation;
(7) Aluminium in Small Industries;
(8) Foundry Practices.

### Exhibition

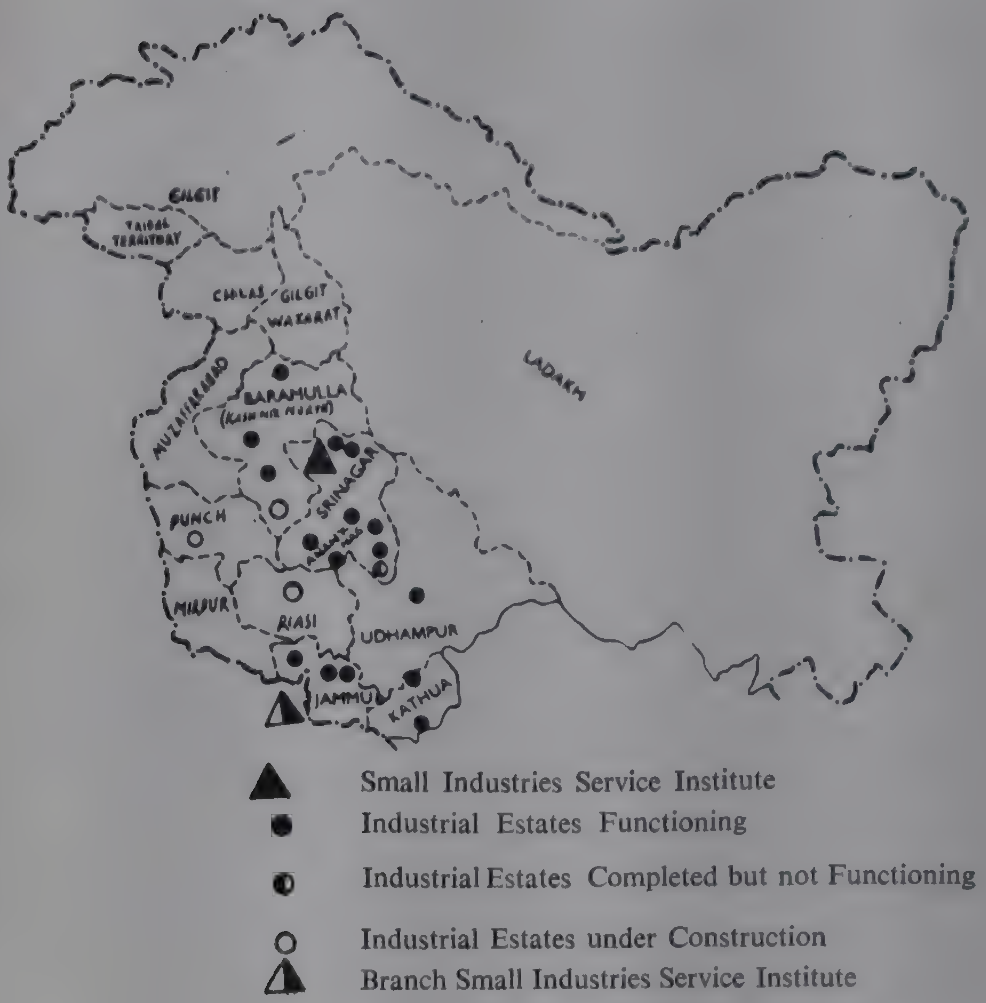
Exhibitions were organised alongwith, almost all the open house discussions to educate the participants on the various products that can be manufactured and are being manufactured all over the country.

Besides, this Institute participated in the exhibitions organised by the Gujarat Small Industries Federation at Ahmedabad, by the Defence Authorities at Baroda, District Panchayat Authorities at Godhra, etc.

# JAMMU

# &

# KASHMIR


GILGIT
TRIBAL TERRITORY
CHILAS
GILGIT WAZARAT
LADAKH
BARAMULLA (KASHMIR NORTH)
MUZAFFARABAD
SRINAGAR
PUNCH
MIRPUR
RIASI
UDHAMPUR
JAMMU
KATHUA
▲ Small Industries Service Institute
● Industrial Estates Functioning
◐ Industrial Estates Completed but not Functioning
○ Industrial Estates under Construction
△ Branch Small Industries Service Institute

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JAMMU & KASHMIR State is one of the largest States of the Indian Union with an area of 222,870 Sq. Kms. The State has three main administrative divisions namely Jammu, Kashmir Valley and Ladakh. There are 10 districts with 40 towns and 60 Community Development Blocks. The number of villages is 6,559. The population of the State was 3.56 million (1961 Census), present estimate being over 4.0 million on this side of the cease-fire line.

The climate of the State varies between arctic cold in Ladakh to tropical heat in certain tracts of Jammu. The annual rainfall varies between 30″ and 35″ in the valley and it is about 45″ in the Jammu area.

80% of the population depend on agriculture. 2.1 million acres of land are under cultivation of which 43% are irrigated, the production of food grains has risen from 0.85 million tons in 1963 to nearly 1.00 million tons in 1969.

As for natural resources, mineral deposits like coal, lignite, petroleum, lead, zinc, copper, manganese, iron, graphite, etc. are found to occur in the State. Besides, particularly in the Kashmir Valley, the State has abundant resources of delicious fruits. The production of fruits has been estimated at 96,000 tons valued at Rs. 210 million in 1969.

### Infra-Structure

The State has been making steady progress in the economic development since the independence of the country and substantial progress has been achieved in the creation of infra-structure facilities in the State. There has been rapid and widespread expansion of communication, establishment of organised transport system and increased power supply.

### Power

The installed capacity for power generation in the State is estimated at 40 MWs compared to 21 MWs in 1964. This installed capacity is likely to be trebled in the 4th Plan period. Some of the hydro-electric projects are nearing completion. At present the per capita consumption of electricity in the State is 34.7 KWH as compared to the national average of 58.0 KWH. Similarly per capita industrial consumption of electricity has marked a definite increase in the State and at present stands at 8.7 KWH as compared to less than 3 KWH in the later fifties. So far 800 villages have been electrified in the State.

**Communications**

The communication facilities in the State have been substantially improved. The present length of roads of all catagories is estimated at nearly 9,000 kilometers which works out to 8.0 Kilometers road length per 100 Sq. Kms. The number of civil telephone exchanges is 35 with more than 8,000 telephone connections. The State transport undertaking has at present a fleet of more than 1,200 vehicles. Including the private and public vehicles plying in the State, the average works out to 232 vehicles per 100 000 population. This is equal to the national average.

As a result of the economic development in the State, the per capita income has risen to Rs. 299 in 1969, as compared to Rs. 277 two years earlier, and to Rs. 183 in 1950-51.

**Five Year Plans**

In view of the peculiar geographical position of the State, inadequate infra-stuctrure facilities, adverse climatic conditions and lack of entrepreneurship, the economic and industrial planning of the State has posed many problems. These difficulties have hindered the industrial development of the State. Even so, the State Government has gone ahead with industrial planning and a number of factories in the public sector have been established for the production of items like textiles, silk, woollens, wooden joinery items, cement, rosin and turpentine, drugs etc. Autonomous bodies like the J&K Minerals, J&K Industries Ltd., Export Promotion Corporation, Arts Emporium and Industrial Development Corporation have come into existence for exploiting the resources, skill and talents of the State for organised industrial development. So far all the Government and private enterprises have been in the small scale sector; projects for large factories like watches, telephones, cement, paper and pulp, etc. are in the process of establishment.

**Small Scale Sector**

The total State Plan provision for first three Five Year Plans was Rs. 1,255.1 million. The expenditure on the 1966-69 annual Plans was Rs. 600.7 million and the outlay for the 4th Plan has been fixed at Rs. 1,580 million. The provision for the development of the small scale industries too has been increasing since the First Five Year Plan. The allocation Planwise for the development of the small scale industries in the State is as under:—

| *Plan period* | *Amount (Rs. million)* |
|---|---|
| Ist Five Year Plan | 8.312 |
| 2nd Five Year Plan | 12.413 |
| 3rd Five Year Plan | 16.676 |
| 4th Five Year Plan | 21.636 |

The increasing allocations indicate the importance of this sector in the economic development of the State.

**Industrial Estates**

In order to foster the growth of small scale units, the State constructed industrial estates to provide suitable factory accommodation. The State has already constructed 17 Industrial Estates with 247 sheds having a constructed area of 385,384 Sq.ft. 13 Industrial Estates are wholly or partly functioning. The value of the annual production from these units was estimated at Rs. 9.8 million in 1969.

**Registration of Small Scale Units**

The combined efforts of the State and Central Agencies concerned with the development of small scale industries have resulted in the registration of 993 units by the end of June 1970 and out of them 829 were reported to be in production. The progress of registration of the units since 1966 has been as under:—

| *Year* | *No. of units registered* |
|---|---|
| Upto 1965-66 | 583 |
| 1966-67 | 631 |
| 1967-68 | 685 |
| 1968-69 | 735 |
| 1969-70 | 787 |
| 1970-71 (ending June 70) | 829 |

Among other things, the present slow growth of industries is in a way due to non-availability of requisite skilled labour as well as the dearth of entrepreneurs. Despite these, small scale sector has made some progress particularly in Srinagar and Jammu towns in recent years. Manufacture of items like cycle and scooter tyres, aluminium utensils, aluminium conductors, etc. are likely to come up shortly.

The number of units registered in the various districts upto June 1970 indicates the concentration of units at Srinagar and Jammu. The district-wise distribution of the registered units is as under:—

| *District* | *No. of units registered* |
|---|---|
| Srinagar | 470 |
| Baramulla | 14 |
| Anantnag | 30 |
| Total Kashmir Valley | 514 |

| | |
|---|---|
| Jammu | 270 |
| Udhampur | 12 |
| Doda | 1 |
| Poonch | 4 |
| Kathua | 28 |
| Total Jammu Province | 315 |
| Total (J & K State) | 829 |

**Intensive Campaigns**

In view of the slow growth of small scale industries in the State, the Directorate of Industries in collaboration with the SSIDO, NSIC and other agencies organised two Intensive Campaigns for the development of industries in the State. During these campaigns the NSIC received a number of applications for hire-purchase of machinery and at present 208 applications for 577 machines valued at Rs. 12.50 million are under consideration with the NSIC. This Corporation has made offers to 171 applicants for 337 machines valued at Rs. 4.25 million and has so far received earnest money from 69 parties for 149 machines. Machines in 37 cases have already been delivered to the units in the State. The machinery so far delivered is of indigenous origin. The processing of the cases involving imports of machinery are nearing completion and it is expected that some of the machines will be delivered during the current year. It is estimated that about 100 small scale units with an investment in machinery worth Rs. 3.5 million will come up in the State due to these two campaigns. The annual production estimates of these units is expected to be of the order of Rs. 10.0 million.

Up to 30th June 1966 the NSIC had accepted applications for machinery worth Rs. 1.96 million out of which it had delivered machinery worth Rs. 0.85 million to 9 entrepreneurs. The achievement of these two campaigns are quite commendable.

**Financial Assistance**

Simultaneously with the provision of machinery on hire-purchase the various financial institutions and agencies have stepped up their programme to provide financial assistance to the small scale units. Thus the Director of Industries, under the State Aid to Industries Act, has been annually disbursing about Rs. 0.8 million to the small industrialists. These loans are primarily meant for working capital needs. The State Financial Corporation has also stepped up financial assistance to the small scale units to meet their fixed capital requirements and in certain cases for working capital too.

**State Financial Corporation**

In line with the national policy of providing easy and cheap credit to the Industries in this State, this Corporation has also liberalised its lending policy. In the absence of large scale industries in the State. The entire amount of lending by this Corporation has been in the small scale sector. During the first five years of its working, the Corporation disbursed loans amounting to Rs. 25.86 million. The lending operations of the Corporation since 1965-66 have expanded as will be observed from the following table:

| *Year* | *Loans disbursed (Rs. million)* |
|---|---|
| 1965-66 | 2.480 |
| 1966-67 | 4.516 |
| 1967-68 | 5.442 |
| 1968-69 | 6.029 |
| 1969-70 | 7.371 |

In the industrial sector, the Corporation disbursed 777 loans to the industrial units in this State during the first decade of its operation. The maximum disbursement has been in respect of transport industry and hotels, including houseboat industry and these two groups account for 710 loans. The remaining 67 loans amounting to Rs. 5.33 million were to small scale units and industry-wise distribution of this amount for the period ending 31st March 1970 has been as indicated below.

| *Type of industry* | *Loans* | *Disbursed* |
|---|---|---|
| | *No. of loans* | *Amount (Rs. million)* |
| Flour milling and grinding | 6 | 1.347 |
| Textiles | 9 | 0.866 |
| Saw milling and furniture making | 14 | 0.724 |
| Distilling and brewery | 3 | 0.639 |
| Canning and fruit preservation | 2 | 0.359 |
| Bus body fabrication etc. | 8 | 0.321 |
| Basic metal industry | 4 | 0.320 |

| | | |
|---|---|---|
| Metal Products except machinery and transport equipment | 8 | 0.202 |
| Ice and Ice-cream | 4 | 0.192 |
| Grain milling and edible oils | 5 | 0.087 |
| Steel furniture | 3 | 0.071 |
| Miscellaneous | 4 | 0.202 |
| Total | 67 | 5.330 |

A major share of financial assistance has gone to small scale units in Srinagar and Jammu districts which have the largest number of small scale units in the State.

During the last four years the Corporation has increased its lending to the small industrialists in the State. This is evident from the following figures:—

| *Year* | *Total No. of loans* | *Total disbursement (Rs. million)* |
|---|---|---|
| Upto 31st March 1967 | 273 | 9.42 |
| 1967-68 | 178 | 5.44 |
| 1968-69 | 184 | 6.03 |
| 1969-70 | 237 | 7.37 |
| Total amount disbursed upto 31st March, 1970 | 777 | 28.26 |

**State Bank of India**

The liberalised credit policy of the Bank is in operation in the State. Due to various factors, this facility has not been availed adequately in this State. Till date the total amount of advances sanctioned in favour of industry was only Rs. 2.67 million.

With the extension of credit facilities to small scale units in the rural areas, the utilisation of Bank's assistance is expected to improve. Since the inception of the scheme in May 1970, the Bank has made 46 advances amounting to Rs. 189,000 in the Rural Industries Project, Anantnag besides advances to the units in RIP, Kathua.

**Role of SISI**

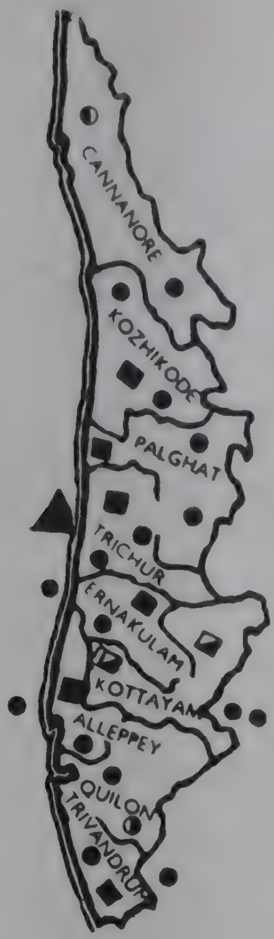
As in the previous years the SISI continued to devote more attention to the growth of small industries in this State. Due to the two intensive campaigns in the State the tempo of work and assistance rendered by this Institute has been on an increase. During the year 1969-70 the Institute contacted 3,942 entrepreneurs, out of which 1,124 parties were provided purely technical assistance. 589 units were given economic information and market data. The Institute undertook also resurveys of 3 districts in the State and recommended suitable measures for the development of small scale industries in these districts.

The Institute provided management counselling and advice to 50 persons and some 54 parties were provided assistance for improvement of their performance in exports. In view of the growing unemployment in the State, the State Government has offered incentives for the establishment of small scale industries for technically qualified persons. The Institute conducted a special class wherein 41 graduate engineers participated. Three of the trainees have established their units and State Bank of India has sanctioned loans to them.

The Institute also followed up the cases relating to hire-purchase of machinery applied for during the Intensive Campaigns conducted in the State.

Many technical problems posed by the small scale units have been solved by the technical officers of the Institute either by visiting the units to give on the spot technical advice or at the Institute by giving suitable guidance. Instances of a few interesting problems showed by the technical officers related to the following: Modifications to an indigenous plant for the manufacture of ACSR conductors and assistance in erecting the same with proper lay out; construction of new furnace for and guidance in the proper method of heat-treatment of leaf springs to improve their quality and to reduce fuel consumption; apprisal of the correct technique of manufacturing oil seals to conform to the specifications laid down by the Oil and Natural Gas Commission; development of appropriate process of dressing and tanning of sheep skins suitable for exports; evolution of a new technique of dyeing the pelts of rabbits and wild cats helping tanners not only to take their production but also to take advantage of the growing export demand for these items.

# KERALA



▲ Small Industries Service Institute

◭ Branch Small Industries Service Institute

■ Extension Centres

◪ Production-cum-Training or Training Centres

● Industrial Estates Functioning

◐ Industrial Estates Completed but not Functioning

○ Industrial Estates under Construction

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The territorial waters of India extend into the Sea to a distance of twelve nautical miles measured from the appropriate base line.

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## Salient Features of Kerala and Its Economy

KERALA is one of the smallest States in India. It is a narrow strip of land along the western coast of India. It has an area of 38,855 Sq. K. Ms. and the length of its coast-line is nearly 575 K.Ms. It is the most thickly populated State (estimate of popu-

*A view of the Small Industries Service Institute, Trichur (Kerala)*

*An Intensive Campaign was launched in Kerala State to motivate entrepreneurs to set up small enterprises. Picture shows Shri T.V. Thomas former Minister for Industries, Govt. of Kerala speaking during the Campaign.*

*SISI—Pavilion organised at the "Pooram Exhibition" during the "Pooram" festival at Trichur*

lation in 1969 is 20.8 million) with an average density per square kilometer (535) being over 3 times the all-India average (164) mid—1969. The State has also the highest literacy percentage in India, i.e., 46.8 (1961).

The per capita income of Rs. 504.99 (1967-68) in the State is lower than national average of Rs. 543. Yet Kerala, by any standard, is also one of the richest States in India as it has a rich agricultural base, yielding high value cash crops and abundant and cheap electric power. The high demographic pressure, combined with fast growth of population

*Coconut-fringed Kerala accounts for a wealth of resources in fruits, vegetables, and forest products. Picture shows technical officers busy furnishing information to entrepreneurs on food-based and other industries during the Intensive Campaign.*

*An inside view of one of the Production Centres in Kerala located at Thiruvalla for the manufacture of Electric Motors.*

and high literacy, has been mainly responsible for the growing economic insecurity and other problems of instability faced in this State. Hence economic development is accorded top priority, with an emphasis on the industrial development of the State, to absorb as much manpower as possible out of about 0.2 million people coming into the labour market every year. The essential task of economic planning lies in a continuous assessment of resources and assignment of priorities of development so as to achieve optimum economic growth consistent with immediate and long range objectives.

On the industrial scene, Kerala has a preponderance of small industries, most of them traditional industries, utilising mainly local resources. Although they have hitherto accounted for a major share of industrial income and employment, the scope for their further development is limited.

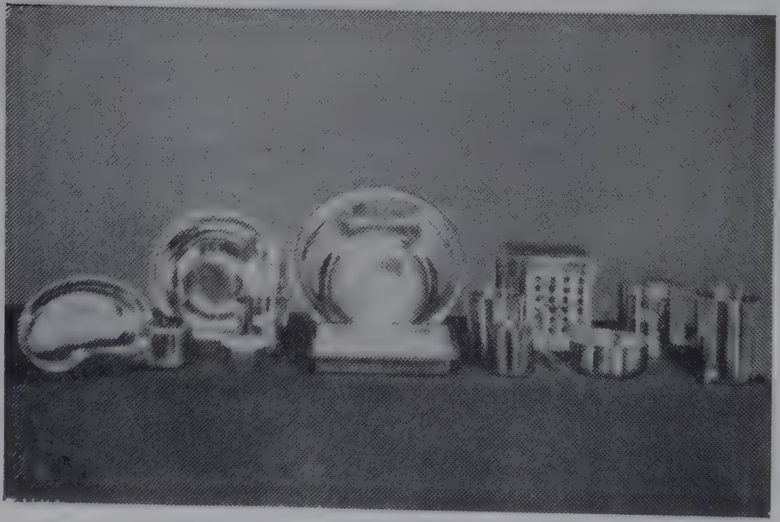
Service-based industries like jobbing workshops are large in number, but they may not register appreciable growth. Only production-oriented industries based on chemical, rubber, plastics and paper have considerable scope for development.

It is well known that India to-day is one of the ten top national markets in the world and in course of time a large unified market of this size will induce substantial industrial growth. The demand for a variety of goods in market centres located far away from Kerala could be met by proper selection of products suited to Kerala's endowments and by appropriate encouragement being given to small enterprises manufacturing such products. The capacity of investment of individual entrepreneurs in Kerala is relatively weak. The flow of investible capital from outside is also not impressive. It is therefore necessary for the State to provide adequate facilities and appropriate incentives for the development of new small enterprises in Kerala State. Taking these factors into consideration, the Small Industries Service Institute, Trichur has prepared a comprehensive list of products having scope for development in Kerala based on the use of local resources and skills available. The products suggested are of such nature that the 'value added by manufacture' will be fairly high.

Ten Project Reports for Functional Industrial Estates covering rubber, plastics, whiteware articles, ceramics, glass, agro-based industries, chemical-based industries (drugs, oleoresins, fruit processing industries), instruments, electronics, printing industry, etc., have been prepared and submitted to the State Government for consideration and implementation. Out of this, the schemes for two Functional Industrial Estates have been implemented for the development of rubber, plastics, and chemicals-based industries and one Functional Industrial Estate for whiteware articles will be established shortly. The other project reports are also under consideration for implementation.

**Small Industries Growth in Kerala**

The growth of small enterprises in Kerala, in number and variety, has been quite impressive. At the end of the Third Five Year Plan, more than 3,000 small scale units empoying about 30,000 persons had been registered. The growth of small units in specific industry groups during the period between 1958 and 1969 and the details of investment, production and employment in these groups are furnished in the following tables:



*Stainless Steel Hospital Wares and Household Utensils produced at the Extension Centre, Attingal, Kerala.*

TABLE I

| Industry groups | Registered small scale units at the end of the year—(Nos.) | | | | | |
|---|---|---|---|---|---|---|
| | 1958 | 1965 | 1966 | 1967 | 1968 | 1969 |
| 1. Engineering | 65 | 1000 | 1200 | 1462 | 1741 | 2684 |
| 2. Chemical | 44 | 400 | 500 | 654 | 927 | 1543 |
| 3. Wood based | 30 | 200 | 250 | 306 | 510 | 805 |
| 4. Ceramics/Glass | 8 | 80 | 100 | 112 | 134 | 201 |
| 5. Leather | 7 | 10 | 10 | 11 | 26 | 36 |
| 6. Food products | 15 | 200 | 250 | 310 | 444 | 670 |
| 7. Miscellaneous | 52 | 200 | 300 | 398 | 522 | 772 |
| Total | 221<br>* | 2090 | 2610 | 3253<br>** | 4304<br>@ | 671<br>£ |

Note:—

*Based on the list compiled by the Directorate of Industries and Commerce.

**Based on Directory compiled by S.I.S.I.

@Figures in this column have been arrived at by adding new registrations for 1968 to the figures as at the end of 1967.

£ The total number is as communicated by the Directorate of Industries and Commerce before the raw material survey. The break-up between the industries has been attempted on the basis of rough proportions in previous years.

TABLE II

**Investment, Production and Employment in Selected Industry Groups**

| Industry groups | No. of selected units | Investment (Rs. million) | Production. (Rs. million) | Employment (Nos.) |
|---|---|---|---|---|
| 1. Engineering | 275 | 37.0 | 79.0 | 6,060 |
| 2. Chemical | 350 | 31.5 | 56.0 | 4,150 |
| 3. Fruit, Vegetable etc. | 110 | 21.5 | 52.5 | 4,100 |
| 4. Wood based | 675 | 40.0 | 60.0 | 16,800 |
| 5. Glass and Ceramics | 238 | 29.0 | 52.5 | 2,6500 |
| 6. Leather | 250 | 1.6 | 1.8 | 1,100 |
| | 1,898 | 160.6 | 301.8 | 58,710 |

Small enterprises in the food processing industry, chemical industry, and engineering industry have good prospects of development and deserve encouragement as the employment potential in these industries is fairly high. The State is endowed with raw materials of agricultural and marine origin to warrant the development and promotion of food processing industries in an organised manner. The annual marine fish landings of .35 million tonnes can be further stepped up with modernisation of

*A view of the meeting organised in connection with the Intensive Campaign in Kerala : Second from right is Shri R. Poornam, Director, SISI, Trichur (Kerala)*

fishing craft geared to facilitate off-shore and deep-sea fishing. Opening of more fishing harbours, freezing stations, faster road transport facilities, etc. will help this industry to achieve the export target of Rs. 600 million as set forth in the Fourth Five Year Plan period.

The fruit products industry has further scope for development and a larger organisational set-up would facilitate a more rapid growth.

These two industries have large employment potential as well as export potential. The development of these industries will help in stabilising and augmenting the income of the fishermen and the fruit growers in the State.

Chemical and allied industries occupy the pride of place in Kerala State. The most important ones are fertilisers, chemicals, heavy chemicals, rare earths, DDT, rubber products, glass, glucose, soaps, cosmetics, drugs, hydrogenated oil, etc. The small scale chemical industries in this State also play an important role in the State's economy with an annual production in selected units amounting to about Rs. 120 million. Small scale units in the engineering industry have been engaged largely in service and repair jobs. The emergence of small scale manufacturing units in the engineering line is comparatively recent.

Automobile ancillaries and electronics which have registered rapid growth in the country, as well as other industries which have a high value-added content in the end-product and large employment potential deserve to be encouraged in Kerala—manufacture of instruments, watches, electrical appliances, household appliances etc. may be quite suitable for development in Kerala which has abundant man-power with requisite skills and cheap electric power.

The Central and State Governments are offering various services and facilities such as economic information, technical assistance, managerial advice and guidance, training in technical trades and industrial management, hire-purchase of machinery, credit facilities, accommodation in industrial estates, testing facilities, quality marking, etc.

With regard to marketing assistance, the State Government have reserved a number of items for procurement exclusively from small scale industries. During the Fourth Plan period, the State Government have plans to set up Trade Centres in important cities in India for marketing small industries products of Kerala.

To encourage technically qualified entrepreneurs in setting up small scale units, Government have several schemes of assistance i.e. for training such entrepreneurs, providing accommodation for their units in industrial estates and industrial areas on a preferential basis and provision of institutional finance from Rs. 100,000 to Rs. 300,000 without any security on the merits and feasibility of their projects.

The assistance rendered by the Small Industries Service Institute to the entrepreneurs, industrialists, artisans, banks, financial institutions and the State Government are given in the statistical form in the following Tables:

### TABLE III

**Technical Advisory Service**

| Year | Technical advice rendered (No. of instances) | No. of Instances |  | No. of visits to enterprises |
|---|---|---|---|---|
|  |  | Advice given to start new industries | Advice given for promotional purposes |  |
| 1958-59 | 305 | 288 | 411 | 624 |
| 1959-60 | 512 | 852 | 921 | 906 |
| 1960-61 | 1024 | 888 | 548 | 553 |
| 1961-62 | 1173 | 1059 | 651 | 862 |
| 1962-63 | 1503 | 1227 | 1063 | 801 |
| 1963-64 | 1432 | 1250 | 1448 | 1294 |
| 1964-65 | 1929 | 985 | 2028 | 1367 |
| 1965-66 | 2823 | 1060 | 3365 | 2183 |
| 1966-67 | 2869 | 721 | 4878 | 2313 |
| 1967-68 | 3494 | 1312 | 4097 | 2161 |
| 1968-69 | 3038 | 1079 | 4054 | 2153 |
| 1969-70 | 2524 | 818 | 4000 | 1724 |
| (Upto 31-10-70) |  |  |  |  |

### TABLE IV

**Management and Technical Training**

| Sl. No. | Particulars of Courses | Number of trainees |  |  |  |
|---|---|---|---|---|---|
|  |  | 1967-68 | 1968-69 | 1969-70 | 1970-71 (Upto 31-10-70) |
| I. | MANAGEMENT COURSES |  |  |  |  |
| 1. | Industrial Management course | 48 | 41 | 22 | .. |
| 2. | Specialised course in Marketing Management | 36 | .. | 40 | .. |
| 3. | Ad-hoc course on Production and Planning Control | 44 | .. | .. | .. |
| 4. | Foundry Management | 9 | .. | .. | .. |
| 5. | Ad-hoc course for Bank Executives | 23 | .. | .. | .. |
| 6. | Export Promotion course. | 25 | 38 | 35 | 15 |
| 7. | Financial Management and Cost Accounting | 12 | 36 | 45 | .. |
| 8. | Specialised course in Production Management | .. | 25 | 38 | .. |
| 9. | Ad-hoc course in S.Q.C. | .. | 10 | .. | .. |
| 10. | Ad-hoc course in Financial Management and Cost Accounting |  | 23 | 35 | .. |
| 11. | Ad-hoc course for Technicians to start small scale industries | .. | 40 | .. | .. |
| 12. | Ad-hoc course in Material Management | .. | .. | 17 | .. |
| 13. | Ad-hoc course in Marketing Management | .. | .. | 15 | .. |
| 14. | Ad-hoc course in Sales Forecast and Advertisement. | .. | .. | 15 | .. |
|  |  | 197 | 213 | 262 | 16 |
| II. | TECHNICAL TRAINING COURSES |  |  |  |  |
| 1. | Machine Shop Practice | 51 | 37 | 58 | 24 |
| 2. | Welding | 48 | 48 | 58 | 30 |
| 3. | General Fitting | 35 | 27 | 40 | 12 |
| 4. | Smithy and Forging Shop | 18 | 14 | 20 | 10 |
| 5. | Tool Room Practice | 9 | 7 | 13 | 6 |
| 6. | Furniture and Allied Items | 40 | 51 | 52 | 20 |
| 7. | Footwear and Allied Goods | 35 | 25 | 38 | 19 |
| 8. | Fruit and Vegetable Preservation | 29 | 31 | 30 | 10 |
| 9. | Blue Print Reading | 107 | — | 135 | 32 |
|  |  | 372 | 240 | 444 | 163 |

| | | | | |
|---|---|---|---|---|
| **III. MOBILE VANS** | | | | |
| 1. Smithy | 10 | 15 | 24 | 7 |
| 2. Carpentry | 10 | 15 | 24 | 5 |
| 3. Leather | 10 | 13 | 15 | 5 |
| | 30 | 43 | 63 | 17 |

### TABLE V

**Statesments of Jobs Undertaken and Revenue Earned There-of in Respect of Small Industries Service Institute Trichur Including Extension Centres and Central Workshop**

| *Year* | *No. of service jobs undertaken* | *No. of developmental jobs undertaken* | *Revenue earned* (Rs.) |
|---|---|---|---|
| 1962-63 | 1668 | 40 | 42,190 |
| 1963-64 | 2507 | 30 | 44,943 |
| 1964-65 | 2523 | 45 | 64,770 |
| 1965-66 | 2858 | 76 | 78,527 |
| 1966-67 | 2837 | 70 | 118,849 |
| 1967-68 | 2432 | 82 | 134,842 |
| 1968-69 | 2286 | 139 | 142,936 |
| 1969-70 | 2594 | 121 | 172,077 |
| 1970-71 | 1496 | 78 | 113,974 |
| (Upto 31-10-1970) | | | |

### TABLE VI

**Credits to Small Scale Units in Kerala**

| *Sl. No.* | *Agency* | *No. of loans* | *Amount (in Thousands)* |
|---|---|---|---|
| | **As on 31—3—1967** | | Rs. |
| 1. | Kerala Financial Corporation | 829 | 289.91 |
| 2. | State Bank of India | 232 | 16,900.00 |
| 3. | State Bank of Travancore | 286 | 14,100.00 |
| | **For 1967-68** | | |
| 1. | Kerala Financial Corporation | 72 | 5,142.00 |
| 2. | State Bank of India and Subsidiaries | 63 | (not reported) |
| 3. | Commercial Banks and Others | 5 | —do— |
| | **For 1968-69** | | |
| 1. | Kerala Financial Corporation | 71 | 4,612.00 |
| 2. | State Bank of India and Subsidiaries | 83 | (not reported) |
| 3. | Commercial Banks and Others | 5 | —do— |
| | **For 1969-70** | | |
| 1. | Kerala Financial Corporation | 73 | 7,462.00 |
| 2. | State Bank of India and Subsidiaries | 235 | (Not reported) |
| 3. | Commercial Banks and Others | 18 | —do— |

### TABLE VII

**Industrial Estates in Kerala**

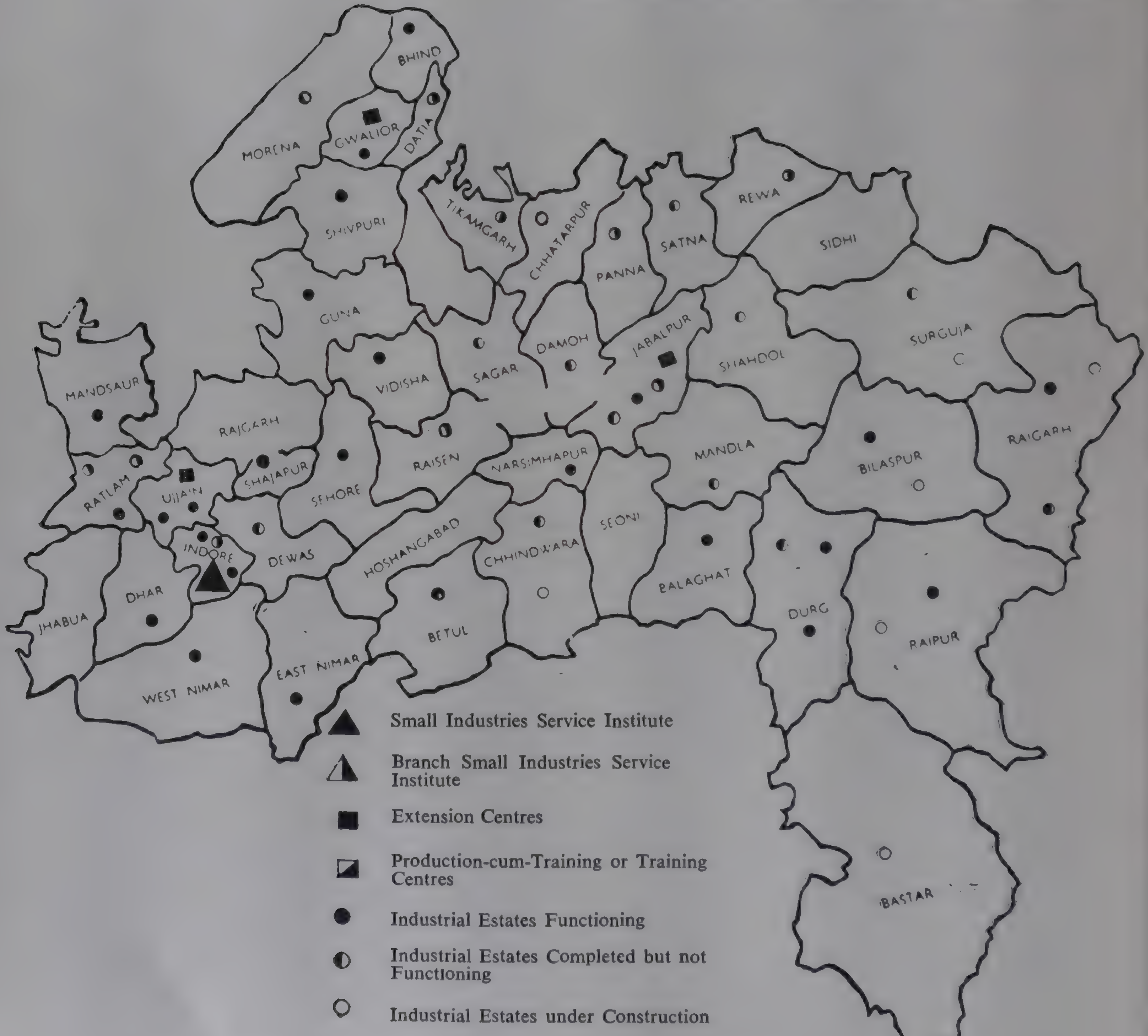
(Position as reported in September 1969)

| Sl. No. | Name of Industrial Estate | No. of units working | Employment | Remarks |
|---|---|---|---|---|
| 1. | Industrial Estate, Papanamcode | 19 | 324 | Trivandrum District |
| 2. | —do— Karakulam | 1 | Not Reported | —do— |
| 3. | —do— Umayanallur | 13 | 100 | Quilon District |
| 4. | —do— Karunagappally | 1 | Not Reported | —do— |
| 5. | —do— Kollakhadavu | 15 | 133 | Alleppey District |
| 6. | —do— Shertallai | 2 | Not Reported | —do— |
| 7. | —do— Aroor | 11 | —do— | —do— |
| 8. | —do— Ettumanur | 19 | 230 | Kottayam District |
| 9. | —do— Changanacherry | 9 | Not Repotred | —do— |
| 10 | —do— Palluruthy | 7 | 70 | Ernakulam District |
| 11. | —do— Vazhakulam | 7 | 31 | —do— |
| 12. | —do— Ollur | 18 | 216 | Trichur District |
| 13. | —do— Kallettumkara | 5 | Not Reported | —do— |
| 14. | —do— Olavakkot | 14 | 335 | Palghat District |
| 15. | —do— Karakkad | 12 | 114 | —do— |
| 16. | —do— West Hill | 15 | 180 | Kozhikode District |
| 17. | —do— Manjeri | 5 | 30 | —do— |
| 18. | —do— Palayad | 1 | 20 | Cannanore District |
| 19. | —do— Kasargode | — | — | —do— |

# MADHYA PRADESH

AS a consequence of the States Reorganisation Act 1956, Madhya Pradesh State came into existence on Ist November, 1956. Madhya Pradesh is the largest State of Indian Union with a total area of 143,552 sq. kms. The State has a total population of 32,372,408 (1961 census) with a rural-urban population ratio of 86 to 14. The percentage of tribal population is 20.63. The State is centrally situated in the country and is rich in regard to agriculture, forest, mineral and live-stock resources.

From the date the State came into existence, the State Government has been offering liberal conces-



Based upon Survey of India map with the permission of the Surveyor General of India.

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*Madhya Pradesh, the biggest State in India, is on the march! Picture shows Shri R.R. Prasad, Director, SISI, Indore speaking to industrialists on the occasion of a seminar. Shri Vasant Rao Uikey. Minister for Industries, Government of Madhya Pradesh is on the extreme left.*

sions to new entrepreneurs and as a result of promotional efforts of the State Government, the National Small Industries Corporation Limited, the Small Industries Service Institute, the Madhya Pradesh Financial Corporation and the Commercial Banks, there has been considerable development of small scale industries in the State. The impact of developmental activities in the field of small scale industries can be judged from the fact that the total number of registered units in the State increased from 421 in 1961 to 14,406 in the year 1969-70. The year-wise figures of firm registration of units with the Director of Industries in Madhya Pradesh is given in Table I.

TABLE I

REGISTRATION OF SMALL SCALE UNITS
1961-62 TO 1969-70

| *Year* | *Cumulative No. of units registered* |
|---|---|
| 1961-62 | 412 |
| 1962-63 | 1,259 |
| 1963-64 | 1,645 |
| 1964-65 | 2,192 |
| 1965-66 | 5,224 |
| 1966-67 | 7,389 |
| 1967-68 | 10,260 |
| 1968-69 | 11,031 |
| 1969-70 | 14,406 |

**Items Manufactured**

A great variety of items are being manufactured by the Small Scale Units in Madhya Pradesh. Sheet Metal and Iron & Steel Fabrication are among the important items followed by Soap, Confectionary, Wooden Furniture, Utensils, Food-Products, Chemical Products and Electrical goods. Promotional efforts have been responsible for the establishment of units for products like Cycle and Scooter Tyres, Umbrella Ribs, Tin Containers, Water Meters, Clocks, Asbestos Pipes, Mosaic Tiles and so on which were entirely new to the State. The Division-wise and District-wise distribution of registered small enterprises is given in Table II.

TABLE II

PROGRESS AND DISTRIBUTION OF REGISTERED SMALL SCACE UNITS

| Sl. No. | Name of District | As on 31-3-65 Nos. | As on 31-3-67 Nos. | As on 31-3-69 Nos. | As on 31-3-70 Nos. |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| | *Raipur Division* | *372* | *737* | *1183* | *1479* |
| 1. | Raipur | 112 | 300 | 565 | 716 |
| 2. | Durg | 239 | 338 | 565 | 615 |
| 3. | Baster | 21 | 99 | 120 | 148 |
| | *Bilaspur Division* | *160* | *341* | *447* | *622* |
| 4. | Raigarh | 66 | 130 | 201 | 226 |
| 5. | Bilaspur | 73 | 114 | 194 | 228 |
| 6. | Surguja | 21 | 97 | 152 | 168 |
| | *Jabalpur Division* | *332* | *1767* | *2941* | *3374* |
| 7. | Jabalpur | 152 | 1184 | 1551 | 1701 |
| 8. | Mandle | 19 | 137 | 257 | 278 |
| 9. | Balaghat | 12 | 95 | 177 | 211 |
| 10. | Chhindwara | 31 | 107 | 269 | 311 |
| 11. | Sagar | 44 | 104 | 182 | 234 |
| 12. | Damoh | 22 | 36 | 74 | 104 |
| 13. | Narsinghpur | 31 | 76 | 298 | 339 |
| 14. | Seoni | 21 | 28 | 132 | 176 |
| | *Rewa Division* | *221* | *607* | *1472* | *1825* |
| 15. | Rewa | 68 | 154 | 385 | 485 |
| 16. | Sidhi | 5 | 24 | 72 | 101 |
| 17. | Satna | 50 | 145 | 211 | 283 |
| 18. | Panna | 8 | 20 | 130 | 169 |
| 19. | Shahdol | 40 | 145 | 334 | 374 |
| 20. | Tikamgarh | 9 | 23 | 171 | 217 |
| 21. | Chhatarpur | 41 | 96 | 169 | 196 |
| | *Indore Division* | *725* | *1571* | *2830* | *3717* |
| 22. | Indore | 462 | 564 | 706 | 1094 |
| 23. | Ratlam | 42 | 183 | 310 | 379 |
| 24 | Ujjain | 86 | 337 | 590 | 684 |
| 25. | Mandsaur | 25 | 72 | 139 | 175 |
| 26. | Dewas | 22 | 131 | 227 | 281 |
| 27. | Dhar | 1 | 19 | 177 | 208 |
| 28. | Jhabua | 1 | 15 | 95 | 110 |
| 29. | W. Nimar | 24 | 133 | 314 | 416 |
| 30. | E. Nimar | 62 | 57 | 272 | 370 |
| | *Gwalior Division* | *227* | *560* | *1146* | *1381* |
| 31. | Gwalior | 155 | 212 | 432 | 516 |
| 32. | Bhind | 19 | 163 | 236 | 286 |
| 33. | Morena | 15 | 70 | 181 | 201 |
| 34. | Shivpuri | 25 | 63 | 155 | 169 |
| 35. | Datia | 3 | 15 | 34 | 44 |
| 36. | Guna | 10 | 37 | 108 | 165 |
| | *Bhopal Division* | *104* | *356* | *1009* | *1408* |
| 37. | Sehore (Bhopal) | 51 | 121 | 270 | 359 |
| 38. | Raisen | 4 | 30 | 167 | 264 |
| 39. | Vidisha | 21 | 50 | 114 | 144 |
| 40. | Hoshangabad | 11 | 27 | 102 | 154 |
| 41. | Betul | 10 | 18 | 117 | 145 |
| 42. | Shajapur | 3 | 19 | 74 | 101 |
| 43. | Rajgarh | 4 | 91 | 165 | 241 |
| | Total | 2141 | 5939 | 10763 | 13804 |

**Industrial Estates**

For the development of Small Scale Industries, Madhya Pradesh Government has established Urban Industrial Estates in 19 places; semi-urban Industrial Estates in 26 places; and rural work-sheds in 50 places. In addition to these, Industrial areas, where open plots of developed land will be given on lease to industrialists, are also under development. sheds constructed and sheds allotted and places where industrial areas are being established.

*A view of the Extension Centre, Gwalior of SISI, Indore, Madhya Pradesh. Three Extension Centres are situated one each at Gwalior, Ujjain and Jabalpur in Madhya Pradesh.*

Table III details the location of Industrial Estates,

TABLE—III

| *Sl. No.* | *Name* | *No. of constructed sheds* | *No. of allotted sheds* |
|---|---|---|---|
| (A) | URBAN INDUSTRIAL ESTATES: | | |
| 1. | Indore. | 103 | 103 |
| 2. | Gwalior. | 68 | 66 |
| 3. | Jabalpur. | 38 | 38 |
| 4. | Raipur. | 36 | 32 |
| 5. | Bhopal. | 16 | 16 |
| 6. | Ujjain. | 16 | 16 |
| 7. | Ratlam. | 9 | 9 |
| 8. | Burhanpur. | 9 | 9 |
| 9. | Bilaspur. | 6 | 5 |
| 10. | Vidisha. | 6 | 6 |
| 11. | Katni. | 5 | 4 |
| 12. | Shahdol. | 5 | — |
| 13. | Durg. | 5 | 5 |
| 14. | Rajnandgaon. | 5 | 1 |
| 15. | Satna. | 4 | 3 |
| 16. | Guna. | 4 | 4 |
| 17. | Sagar. | 3 | 2 |
| (B) | INDUSTRIAL AREAS: | | |
| 1. | Indore. | | |
| 2. | Bhilai. | | |
| 3. | Bhopal. | | |
| 4. | Satna. | | |
| 5. | Ratlam. | | |
| 6. | Jabalpur. | | |
| 7. | Dewas. | | |
| 8. | Katni. | | |
| 9. | Gwalior. | | |
| 10. | Ujjain. | | |
| 11. | Raipur. | | |

**Financial Assistance**

Financial assistance to Small Scale Industries is being provided to the units by the following institutions in Madhya Pradesh:

1. State Govt.—under State Aid to Industries Act.
2. State Financial Corporation. 3. Banks.

The details of financial assistance granted by these institutions are given in Tables IV, V and VI.

TABLE—IV

FINANCIAL ASSISTANCE UNDER STATE AID TO INDUSTRIES ACT

| *Year* | *Units* | *Amount in Rs. million* |
|---|---|---|
| 1961-62 | 2353 | 1.98 |
| 1962-63 | 3650 | 3.38 |
| 1963-64 | 2828 | 2.15 |
| 1964-65 | 2706 | 2.23 |
| 1965-66 | 3219 | 2.40 |
| 1966-67 | 1837 | 2.03 |
| 1967-68 | 1481 | 1.90 |
| R.I.P. | +610 | +0.56 |
| | 2091 | 2.46 |
| 1968-69 | 1004 | 1.74 |
| R.I.P. | +205 | +0.56 |
| | 1209 | 2.30 |
| 1969-70 | 592 | 0.95 |
| R.I.P. | +82 | +0.27 |
| | 674 | 1.22 |

*A view of the Industrial Estate at Indore, M.P.*

TABLE—V

MADHYA PRADESH FINANCIAL CORPORATION

| Particulars | 1968-69 |  | 1969-70 |  | Since Inception |  |
|---|---|---|---|---|---|---|
|  | No. | Amount in Rs. million | No. | Amount in Rs. million | No. | Amount in Rs. million |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1. Total Applications Received | 60 | 7.211 | 50 | 6.255 | 757 | 78.930 |
| 2. Total Applications Sanctioned | 46 | 4.152 | 39 | 6.294 | 380 | 39.455 |
| 3. Total Applications at the end of the year | 37 | 4.566 | 16 | 1.508 | 16 | 1.508 |
| 4. Loans Sanctioned | 46 | 4.152 | 39 | 6.294 | 276 | 27.267 |
| 5. Loans Disbursed | 32 | 2.861 | 31 | 3.341 | 241 | 20.194 |

TABLE—VI

BANKS

| *Year* | *No. of units assisted* | *Amount in Rs. million* |
|---|---|---|
| 1967-68 | 101 | 15.92 |
| 1968-69 | 146 | 14.66 |
| 1969-70 | 175 | 25.56 |

**Hire-purchase of Machinery and Equipment**

Supply of machinery and equipment on hire-purchase basis is another type of credit facility provided by National Small Industries Corporation Ltd. (a Govt. of India concern). The extent to which small enterprises in Madhya Pradesh availed themselves of this facility during the Second and Third Five Year Plan periods and during the period between 1966-67 and 1969-70 is summarised below:

| *Period* | *Rs. million* |
|---|---|
| 1. Second Five Year Plan | 0.175 |
| 2. Third Five Year Plan | 5.593 |
| 3. 1966-67 | 1.704 |
| 4. 1967-68 | 6.768 |
| 5. 1968-69 | 6.869 |
| 6. 1969-70 | 0.998 |

**Small Industries Service Institute, Indore at work**

The Small Industries Service Institute, at Indore and its Extension Centres at Jabalpur, Gwalior and Ujjain are engaged in providing free technical assistance for the development of Small Scale Industries. The Institute provides technical consultancy service in mechanical, foundry, fruit preservation, hosiery, ceramics, leather and electro-plating trades. It conducts stipendary and non-stipendary training courses in technical trades and management subjects. It also has an economic intelligence and research division with expertise in economic survey, industrial information service and economic viability analysis.

**Technical Assistance**

Technical assistance rendered by this Institute and the Extension Centres under it, is based on a careful study of the technical problems faced by the Small Scale Units. The technical officers who have specialised in different fields of work, visit various Small Scale Units in the State, and make a detailed study of the problems of small enterprises to give suitable technical advice on the spot.

The details of technical assistance rendered by the Institute and also by its Extension Centres are given in the statement below:

| Year | No. of visits paid to render on the spot advice | Parties given purely technical assistance | Parties given information to start new industries | Parties given other assistance |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 1967-68 | 2697 | 2392 | 1222 | 2680 |
| 1968-69 | 3466 | 3189 | 961 | 1935 |
| 1969-70 | 4158 | 2584 | 2124 | 692 |

As a result of the sustained efforts made by the Small Industries Service Institute, it has been possible to induce a number of entrepreneurs to take up the manufacture of a variety of new products hitherto not manufactured in the State, and also to bring about a measure of diversification and sophistication and, in some cases, cost reduction of products made in the Small Scale Sector. There are at present small enterprises in the State for the manufacture of Bicycles, Sewing Machines, Wall Clocks, Electric Meters, Surface Plates, Water Meters, Scientific Instruments, Electronic Equipments, Electric Fans, Speedo-meter Cables, Precision Gears, Basic Chemicals, Dye-stuffs, Synthetic Resins, Pharmaceutical Products, Perfumery, Insecticides and pesticides, Sulphuric Acid, Fluorescent Tubes and Fixtures, Steel Tubes, Hosiery, Cycle and Scooter Tyres & Tubes, Metallic Flexible Tube, Beer, Automobile components, Perforated Sheets and a number of Engineering and Consumer goods.

As mentioned already there were quite a number of instances of technical counselling and assistance by the various officers of the Institute and its Extension Centres. Some of the more interesting ones are summarised below:

(a) Assistance in the correct process of Cyanide hardening of tommy bars (one of the tools in the tool-kit for "SHAKTIMAN" Trucks) as a result of which the party could fulfil his commitment to supply these to the Defence Authorities in the stipulated time and in accordance with their specifications.

(b) Preparation on a laboratory scale of Gamma Iron Oxide which is the main ingredient in the manufacture of magnetic tape and advice to the party who wanted to take up the manufacture of magnetic tape for use in Tape Recorders.

(c) Successful fabrication of appropriate toolings for the manufacture of mild steel load chains of unusual link size to enable a party to fulfil a contract to supply such chains. The machinery for the manufacture of chains which is imported by the party would have normally required only imported tooling which the party was contemplating to do. This is an instance of import substitution.

(d) Assistance to a party to fabricate components and parts of Electrical Traction Fins which were being imported by M/s. Heavy Electricals Ltd., Bhopal. The party has successfully fabricated and supplied the stores to HEL which resulted in the saving of foreign exchange.

(e) Complete assistance to a few parties right from the preparation of a suitable scheme to the installation of machinery in their factories for the manufacture of bicycle tyres, mosaic tiles, beer, hosiery garments, tape recorders, I.F. transformers for transistor radios and ferrous and non-ferrous forgings.

(f) Assistance to parties in the fabrication of wire-netting and net winding machine, four-operation automatic umbrella ribs making machine and suitble drilling jigs for special types of buses required by the Defence Production unit at Jabalpur.

### Development of Ancillary Industries

The Small Industries Services Institute, Indore has been assisting units to work as ancillaries to the Heavy Electricals India Limited, Bhopal, the Bhilai Steel Plant, besides other Public Sector undertakings and large scale units in the Private Sector. As a result of these promotional efforts about 40 small scale units from Madhya Pradesh have supplied goods worth Rs. 760,000 to large scale undertakings in Madhya Pradesh and outside Madhya Pradesh during the year 1969-70.

Under phase V of Development of Ancillary Industries to the Heavy Electricals (India) Limited, Bhopal, 7 enterprises have been selected to work as ancillaries for the manufacture of the following items/jobs:

1. Copper Strips from Semis.
2. Glass Cloth and Tape.
3. Light Machine Shop for Machining jobs.
4. Medium Machine shop for machining jobs.
5. Fabrication unit for welded assemblies upto 500 kgs. in weight.
6. Foundry Sand.
7. Resistors.

Efforts are being made to establish eleven more units to work as ancillary to the Bhilai Steel Plant and this Institute is engaged in preparation and scrutiny of schemes for selected items of ancillary stores.

### Government Stores Purchase Programme

In all 472 units are enlisted with the National Small Industries Corporation for participation in the Government Purchase Programme and orders received from the D.G.S. & D. are executed in consultation with this Institute.

### Review of Industrial Estates

The Small Industries Service Institute, Indore has conducted special studies in respect of 10 urban as well as semi-urban Industrial Estates in the State with a view to find out the problems of units functioning in the estates as also to find out the reasons for sheds lying vacant in some Industrial Estates. Follow-up action in this regard was also undertaken and various agencies like the National Small Industries Corporation, Madhya Pradesh Electricity Board, Banks, Madhya Pradesh Financial Corporation were contacted, and many entrepreneurs were encouraged to set up new units in these estates. As a result of these special efforts a number of sheds in the Industrial Estates located at Dhar, Khargone, Morena, Burhanpur and Jabalpur were occupied.

### Management Consultancy

The In-stitute undertakes Inplant Studies with a view to locate the problems of a manufacturing unit and offering workable solutions to them. Ten such studies conducted so far have proved quite helpful in reducing the cost of production and in increasing the productivity of the small scale enterprises.

### Workshop and Laboratory Service

The receipts from job work have been increasing for the last four years which can be seen from Table VII, which is indicative of the increasing demand for the services of the workshop at the Institute as well as in the Extension Centres.

### Managerial and Technical Training Service

Small Industries Service Institute, Indore has been conducting regular classes in Management training

TABLE VIII

| | Table Receipts in Rs. | | | |
|---|---|---|---|---|
| | 1966—67 | 1967—68 | 1968—69 | 1969—70 |
| 1. (a) SISI Workshop, Indore | 18,330 | 36,716 | 46,100 | 53,271 |
| (b) Electroplating Section SISI, Indore | — | — | — | 1,540 |
| 2. Extension Centre, Gwalior | 7,865 | 7,569 | 11,717 | 15,758 |
| 3. Extension Centre, Jabalpur | 17,094 | 20,549 | 17,055 | 21,175 |
| 4. Extension Centre, Ujjain | 4,230 | 6,039 | 8,774 | 13,263 |
| Total | 47,519 | 70,873 | 83,646 | 105,007 |

covering subjects such as Marketing, Financial and Cost Accounting, Export Promotion etc., for the benefit of small industrialists. Similarly, technical training courses in Blue Print Reading, Heat Treatment, Foundry Practice and Cutting Tool Practice are also conducted by the Institute. Stipendiary training courses in Machine Shop Practice and Fitting are also conducted at Indore and in the Industrial Extension Centres at Gwalior, Jabalpur and Ujjain.

The number of persons trained during the period 1961-62 to 1969-70 in technical and non-technical training courses is 1,716 and 621 respectively.

### Economic Investigation and Information Service

The questions like what small enterprises could be set up—and where—are of considerable importance to the entrepreneurs. The Institute had studied, through various economic surveys, the scope for various industries indicating suitable locations for each.

The Institute has also prepared Industry Prospect Sheets on various products. The Small Industries Service Institute has prepared/revised 352 Industry Prospect Sheets since 1st April, 1960.

The Institute has so far conducted 16 Area Surveys at the request of the State Directorate of Industries and prepared reports on the industrial development potentialities of these areas.

Apart from this, 470 *ad hoc* economic enquiries were also completed with a view to supplying information on specific industries.

It is through the efforts of this service that many an industry in the State has taken root. A total number of 12,510 parties have taken advantage of this service so far.

### Rural Industrialisation

Rural Industrialisation Projects are in progress in four selected rural areas of East Nimar, Durg, Bhind and Surguja. Since the inception of these projects, the Institute has been treating enquiries from the areas on a priority basis. Surveys for finding out the industrial potentialities of the Project Areas were carried out by the State Government in close collaboration with the Small Industries Service Institute, Indore. Follow-up action was taken up by organising Intensive Campaigns, visits to these areas by various technical officers for on-the-spot technical assistance to the units and for the supply of information and schemes to the project officers and entrepreneurs of the areas. Demonstrations and training programmes with the help of Mobile Demonstration Workshops of the Institute as well as of other Institutes were also organised. This Institute has so far supplied 250 schemes to the Project Areas and the impact of the assistance rendered for the industrialisation of these areas has been considerable.

### Export Promotion

This Institute has assisted about 300 small scale units in the State in the export of their products. The products exported from the State are M.S. Rounds & Flats, E.R.W. Pipes, Diesel Engines, Bicycles, Leather toys, Pharmaceuticals, Resins, Plastic Buckets, Basic Cotton Prints, etc.

In addition to these, this Institute has regularly been conducting Export Promotion Courses to acquaint small industrialists with the procedure for executing export orders.

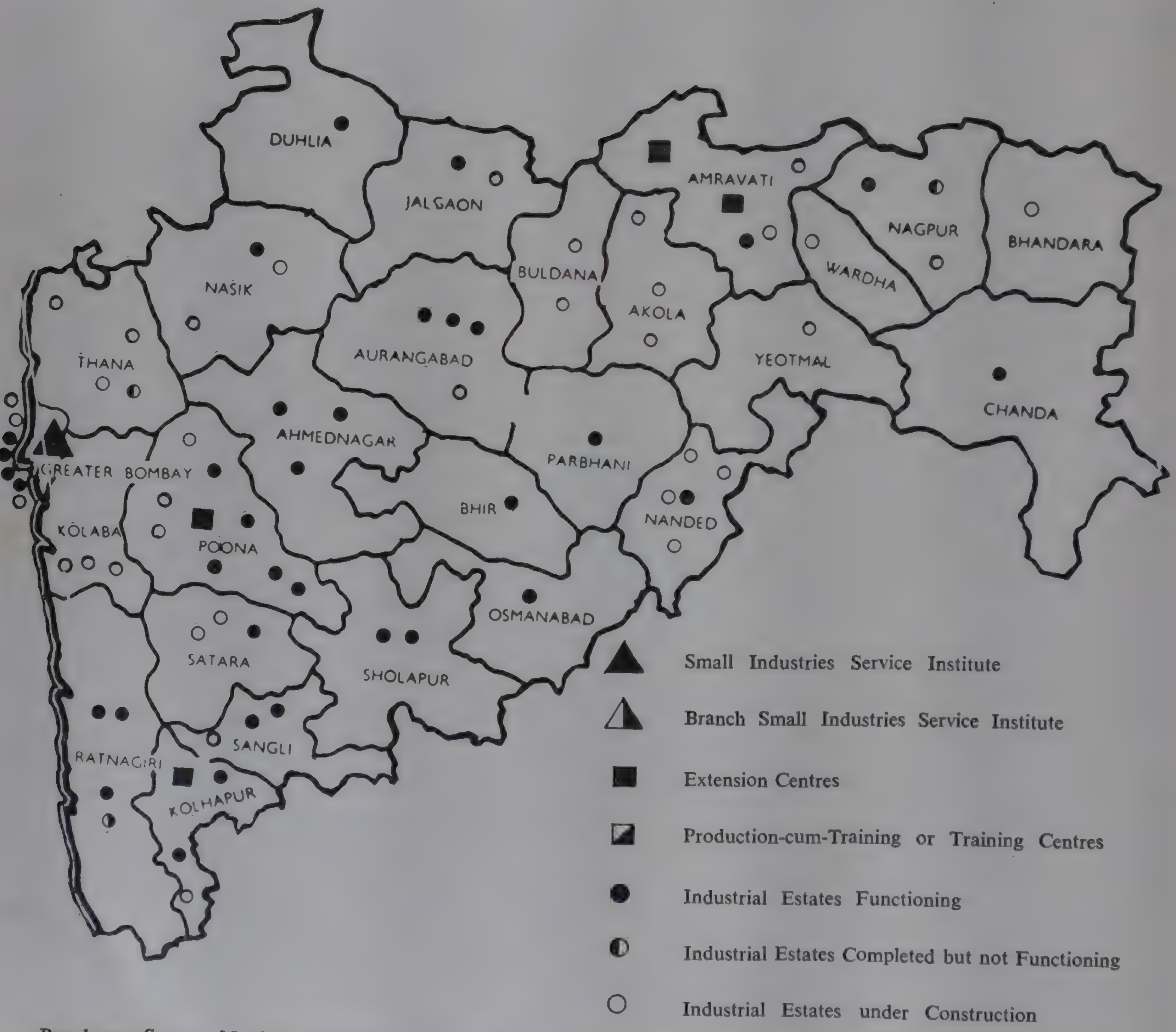
### Exhibition

The Institute has been taking active part in periodical Fairs like the Gwalior Mela, the Kumbh Mela, the Navagraha Mela, etc., which attract thousands of visitors from all over the state. In these fairs, the Institute had organised exhibitions of small industry products and propagated the extention functions and activities of the Institute through information counters, demonstrations on mobile workshops, lectures, etc.

A permanent exhibition of small industry products in the premises of the Small Industries Service Institute at Indore is also proposed to be organised very shortly.

# MAHARASHTRA

THE State of Maharashtra occupies a pre-eminent place in the industrial development of the country. This development was primarily due to the location of large scale industry in the State such as cotton textiles, sugar, paper, engineering and chemical industries. The location of these large scale units, particularly the textile mills, in Bombay city, gave rise to a few small scale units mainly for producing parts, components and other auxiliaries required by these mills. The growth of the small scale sector of industry in the State was, however, not significant till the Second World War. Due to the restriction of imports and the necessity of meeting defence requirements, a few


DUHLIA
JALGAON
AMRAVATI
NAGPUR
BHANDARA
NASIK
BULDANA
AKOLA
WARDHA
THANA
AURANGABAD
YEOTMAL
CHANDA
AHMEDNAGAR
GREATER BOMBAY
PARBHANI
BHIR
NANDED
KOLABA
POONA
OSMANABAD
SATARA
SHOLAPUR
SANGLI
RATNAGIRI
KOLHAPUR
▲ Small Industries Service Institute
◭ Branch Small Industries Service Institute
■ Extension Centres
◩ Production-cum-Training or Training Centres
● Industrial Estates Functioning
◐ Industrial Estates Completed but not Functioning
○ Industrial Estates under Construction

Based upon Survey of India map with the permission of the Surveyor General of India.
The territorial waters of India extend into the sea to a distance of twelve nautical miles measured from the appropriate base line.

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more small scale units sprang up in the State, mainly in the city of Bombay. Apart from the existence of the large scale sector, one of the main reasons for the phenomenal growth of the small scale sector is the marketing facility available in Bombay city, its being one of the biggest commercial centres in the country. Facilities for quick transport and import of raw materials also added to the development of this sector.

The rapid growth of the small scale units in the State is, however, confined to Bombay city and Poona in as much as 50 per cent of the small scale units are located in these two metropolitan towns.

The growth and development of the small scale sector in the State has, however, been quite significant as will be seen from Table I, indicating the number of small scale units registered with the State Directorate of Industries during the past decade.

TABLE I

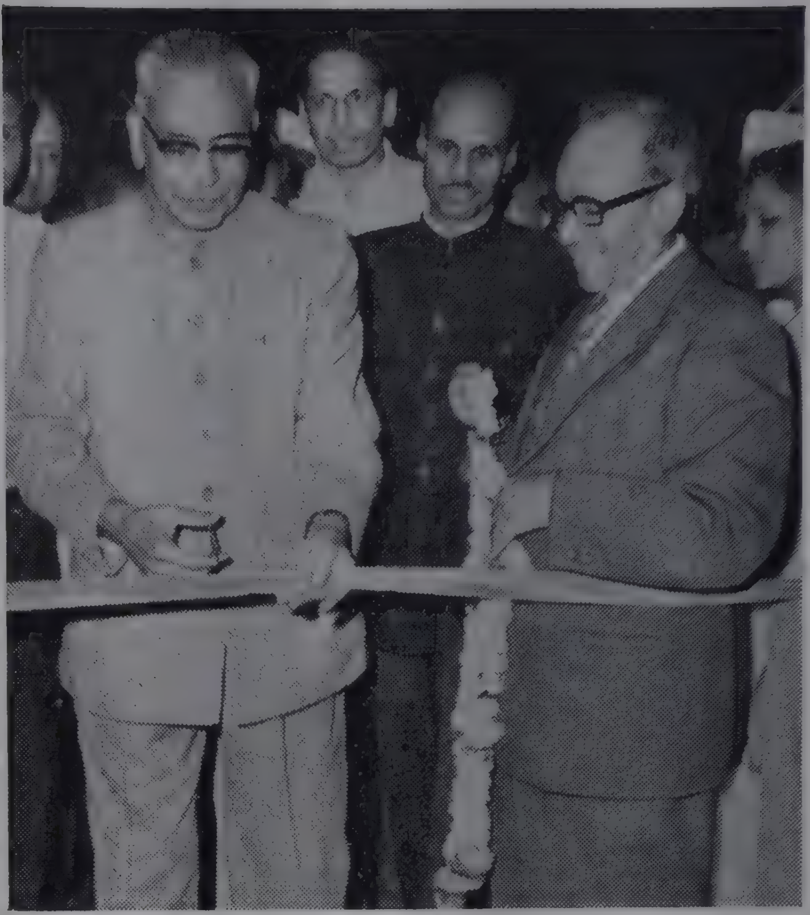
SMALL SCALE UNITS REGISTERED WITH THE STATE DIRECTORATE OF INDUSTRIES

| *Year* | *No. of units* | *Cumulative Total* |
|---|---|---|
| 1961 | 4860 | 4860 |
| 1962 | 3000 | 7860 |
| 1963 | 7973 | 15833 |
| 1964 | 3516 | 19349 |
| 1965 | 1757 | 22106 |
| 1966 | 1325 | 23431 |
| 1967 | 1570 | 25201 |
| 1968 | 1695 | 26896 |
| 1969 | 2164 | 29060 |

From the table above, it is abundantly clear that the decade of '60s has witnessed a tremendous growth of small units in the State. There has been almost six-fold increase in the number of units registered with the Directorate of Industries during the span of eight years. This is indicative of the fact that the small industry assistance programme pursued by the Government has been well in tune with the requirements of planned development of small scale industries envisaged under the Five Year Plans.

**Production and Employment**

The State of Maharashtra is known for its chemical industry. Of the 29,000 small units in Maharashtra manufacturing a wide range of products, about 52 percent are engaged in chemical industries, such as drugs and pharmaceuticals, paints and varnishes, soaps, plastic products, processed foods, textile auxiliary, wood, paper and rubber based industries, 32 percent of the units fall in the mechanical engineering group manufacturing machinery and spares, structurals, sheet metal fabrications, ferrous and non-ferrous products, scientific instruments, etc. The remaining 16 per cent of the units account for such industries as electrical products, leather and leather goods, readymade garments, ceramic ware, etc.



*Dispersal of industries in the interior of Maharashtra called for strenuous efforts and a variety of programmes designed for the purpose including organisation of Exhibitions & Seminars. Picture shows Shri V.P. Naik, Chief Minister of Maharashtra inaugurating one such exhibition while Shri L.R. Upasani, Director, SISI, Bombay looks on (right-side).*

The small scale industries in the State are engaged in the production of (1) items as ancillaries to large scale units or public sector undertakings, (2) consumer goods, and (3) industrial machinery.

1. *Ancillary Development*

Maharashtra State leads all other States in the matter of ancillary development. Over a thousand units are actively working as ancillaries to large scale enterprises. The value of parts and components supplied by ancillary units to large scale units is estimated at about Rs. 4,000 million per annum.

*During a seminar organised in Poona Shri R.A. Patil, Minister for Industry, Govt. of Maharashtra (third from left) inspects a sophisticated equipment manufactured in the Small Scale Sector while Shri A.R. Bhatt (first from right) former President of the F.A.S.I.I. and Shri Bhanu Prakash Singh (second from right) former Deputy Minister for ID, IT & CA look on.*

The important large scale units to which supplies are made in the State are (1) M/s. Premier Automobiles Ltd., (2) M/s. TELCO, (3) M/s. Mahindra & Mahindra Ltd., (4) M/s. McKenzies Ltd., and (5) M/s. Kirloskar Oil Engines. In addition to this, small scale units in the State also cater to the requirements of large scale units in other States such as (1) Integral Coach Factory, Madras, (2) Hindustan Motors Ltd., Calcutta, and (3) Indian Telephone Industries Ltd., Bangalore.

With a view to effectively pursuing ancillary development, a Sub-contract Exchange has been set up recently.

2. *Consumer Industries*

Among the consumer goods, the small scale sector in the State is now producing a variety of sophisticated products such as domestic electrical appliances, wireless receiving sets including transistors, pressure stoves and lamps, gas stoves, stainless steel pressed wares and equipment, PVC chappals, plastic blow moulded containers, builders' hardware, PVC cables, monofilaments, reinforced plastics, plastic tiles, plastic adhesives, spectacle frames, acrylic buttons, refrigerators, domestic washing machines, steel furniture, etc.

3. *Industrial Machinery*

The development of small scale units in the State has also given an impetus for the manufacture of industrial machinery required by the existing units for their expansion or for setting up of new units. The important items of machinery, which are now produced in the State, are plastic processing machinery, diesel engines, sugar mill machinery, rubber processing machinery, workshop machinery such as drilling machines, presses, wood working machinery, hand tools, rice milling machinery, electric motors, power transformers, switchgears, etc.

**Government Stores Purchase Programme**

The small scale sector is also effectively participating in the Government Stores Purchase Programmes of both the Central and the State Governments. Table II indicates the value of orders executed by the small scale units over a period of four years.

TABLE II

PARTICIPATION OF SMALL UNITS IN GOVERNMENT STORES PURCHASE PROGRAMME

| *Year* | *Orders Executed (Value in Rs. Million)* | |
|---|---|---|
| | *For Central Government* | *For State Governments* |
| 1965-66 | 16.72 | 2.06 |
| 1966-67 | 8.86 | 7.81 |
| 1967-68 | 15.22 | 19.39 |
| 1968-69 (10 months) | 8.24 | 17.48 |

**Industrial Estates**

With a view to effecting balanced growth of industries in the State, the Government of Maharashtra has launched an ambitious programme for setting up industrial estates in various parts of the State. It was proposed to establish 69 industrial estates till the end of the Fourth Five Year Plan. Of these, 36 industrial estates are functioning and the number of units working in these estates is 988. Table III indicates the number of units functioning in different industrial estates, employment provided by them, and the value of output.

TABLE III

UNITS FUNCTIONING IN VARIOUS INDUSTRIAL ESTATES OF MAHARASHTRA UPTO MARCH, 1970

| *Name of Estate* | *No. of units* | *Employment* | *Value of output* (Rs. million) |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| 1. Kurla | 31 | 921 | 19.078 |
| 2. Karad | 12 | 238 | 2.593 |
| 3. Hadapsar | 60 | 3,843 | 64.811 |
| 4. Kolhapur | 66 | 435 | 8.492 |
| 5. Ichalkaranji | 143 | 1,338 | 14.693 |
| 6. Sangli | 120 | 1,387 | 20.902 |
| 7. Nagpur | 18 | 316 | 5.478 |
| 8. Amravati | 14 | 99 | 0.899 |
| 9. Nanded | 26 | 148 | 8.350 |
| 10. Parli-Vaijanath | 4 | 52 | 0.144 |
| 11. Kandivli | 149 | 4,725 | 89.280 |
| 12. Bapty Road | 89 | 548 | 5.700 |
| 13. Jalgaon | 16 | 108 | 1.919 |
| 14. Bhusaval | 1 | 6 | 0.360 |
| 15. Bassein | 6 | 78 | — |
| 16. Ratnagiri | 10 | 138 | 0.297 |
| 17. Sawantwadi | 5 | 79 | 0.355 |
| 18. Kudal | 8 | 31 | 0.213 |
| 19. Dhulia | 6 | 34 | 0.451 |
| 20. Nasik | 33 | 506 | 15.230 |
| 21. Parwali | 23 | 201 | 1.380 |
| 22. Lonavala | 13 | 134 | 1.430 |
| 23. Gultekdi | 24 | 523 | 4.792 |
| 24. Miraj | 25 | 313 | 13.090 |
| 25. Sholapur | 37 | 577 | 11.609 |
| 26. Barsi | 1 | 10 | 0.257 |
| 27. Shrirampur | 10 | 61 | 0.365 |
| 28. Kopergaon | 4 | 110 | 0.485 |
| 29. Chandrapur | 4 | 198 | 3.416 |
| 30. Aurangabad | 5 | 62 | 1.128 |
| 31. Jalna | 12 | 188 | 2.475 |
| 32. Paithan | 3 | 11 | 0.027 |
| 33. Latur | 4 | 34 | 0.713 |
| 34. Bhosari | 1 | 28 | 1.524 |
| 35. Kamothe | 1 | 18 | — |
| 36. Ahmednagar | 4 | 77 | 1.132 |
| Total | 988 | 17,575 | 303.068 |

A statement of expenditure on the industrial estates in Maharashtra is given below:—

| *Period* | *Amount Spent* (Rs. million) |
|---|---|
| I and II Plans | 3.24 |
| III Plan | 13.86 |
| 1966-67 | 0.16 |
| 1967-68 | 2.40 |
| 1968-69 | 3.00 |

*Filtration plants located at Shahad Industrial Estate of the Maharashtra Industrial Development Corporation, Maharashtra State.*

Another measure to develop small scale industries in rural areas was the implementation of the Rural Industries Projects in the State. At present four Rural Industries Projects are in operation in the State viz. at Wardha, Vengurla, Latur and Sangamner. Table VIII indicates the number of small scale units established and financial assistance sanctioned to them during the last three years.

**Financial Assistance**

There are several agencies through which financial assistance is being made available to small scale units, such as State Government under State Aid to Industries Act, Maharashtra State Financial Corporation, State Industrial and Investment Corporation of Maharashtra, State Bank of India and its subsidiaries, and nationalised banks. The quantum of assistance received by the small scale sector through these agencies is highlighted in the following tables:—

TABLE IV

LOANS GRANTED BY STATE GOVERNMENT UNDER STATE AID TO INDUSTRIES ACT

| *Year* | *Value* (Rs. million) |
|---|---|
| 1961-62 | 0.36 |
| 1962-63 | 0.87 |
| 1963-64 | 1.61 |
| 1964-65 | 2.85 |
| 1965-66 | 2.15 |
| 1966-67 | 2.19 |
| 1967-68 | 7.30 |
| 1968-69 | 8.50 |
| 1969-70 | 13.30 |

*Inside view of the permanent exhibition of small industry products attached to SISI Bombay, Maharashtra. In the picture Shri L.R. Upasani, Director SISI Bombay is showing some sophisticated electrical instruments manufactured by small scale units to the visiting dignitaries.*

TABLE V

LOANS SANCTIONED BY THE STATE BANK OF INDIA AND ITS SUBSIDIARIES

| *Year* | *Value* (Rs. million) |
|---|---|
| 1961-62 | 4.66 |
| 1962-63 | 5.77 |
| 1963-64 | 40.56 |
| 1964-65 | 58.73 |
| 1965-66 | 64.41 |
| 1966-67 | N.A. |
| 1967-68 | 190.90 |
| 1968-69 | 287.00 |
| 1969-70 | 399.80 |

TABLE VI

LOANS GRANTED BY MAHARASHTRA STATE FINANCIAL CORPORATION

| *Year* | *Value* (Rs. million) |
|---|---|
| 1961-62 | 14.61 |
| 1962-63 | 6.02 |
| 1963-64 | 5.10 |
| 1964-65 | 5.10 |
| 1965-66 | 6.00 |
| 1966-67 | 6.00 |
| 1967-68 | 1.83 |
| 1968-69 | 2.50 |
| 1969-70 | 6.08 |

The Commercial Banks have been playing a significant role in providing financial accommodation to the small scale sector in the State, particularly after the nationalisation. The following table will indicate the number of units and the value of the loans sanctioned by 10 out of 14 banks prior to nationalisation and after nationalisation.

TABLE VII

LOANS SANCTIONED BY COMMERCIAL BANKS

| Name of Banks | Prior to Nationalisation |  | After Nationalisation |  |
|---|---|---|---|---|
|  | No. of units | Amount (Rs. million) | No. of units | Amount (Rs. million) |
| 1. The Indian Bank Ltd. | 24 | 2.88 | 22 | 2.05 |
| 2. The Central Bank of India | 3,021 | 616.68 | 2,092 | 192.31 |
| 3. Bank of Maharashtra | 3,070 | 199.35 | 3,855 | 209.08 |
| 4. Bank of Baroda | 880 | 158.49 | 980 | 131.20 |
| 5. Canara Bank | 798 | 87.70 | 1,299 | 101.10 |
| 6. United Commercial Bank | 272 | 0.01 | 557 | 0.02 |
| 7. Syndicate Bank | 587 | 15.21 | 1,419 | 43.44 |
| 8. Indian Overseas Bank | 136 | 22.30 | 186 | 25.50 |
| 9. Dena Bank | 3,453 | 139.10 | 4,596 | 150.90 |
| 10. Bank of India | 1,896 | 223.30 | 3,382 | 352.40 |
| Total | 14,137 | 1,465.02 | 18,388 | 1,208.00 |

It will be observed from the above table that the loans granted by the above 10 banks after nationalisation have been quite significant in as much as during the period of one year, over 18,000 units were sanctioned limits upto Rs. 1,208.00 million as against only a little over 14,000 units which were sanctioned limits upto Rs. 1,465.02 million during the pre-nationalisation period.

TABLE VIII

FINANCIAL ASSISTANCE IN RIP AREAS

| Project | 1967-68 |  | 1968-69 |  | 1969-70 |  |
|---|---|---|---|---|---|---|
|  | No. of units | Loans sanctioned Rs. | No. of units | Loans sanctioned Rs. | No. of units | Loans sanctioned Rs. |
| Vengurla | 18 | 199,500 | 17 | 196,500 | 4 | 36,000 |
| Wardha | 36 | 200,000 | 39 | 236,000 | 7 | 86,500 |
| Sangamner | 55 | 140,000 | 110 | 200,000 | 21 | 39,000 |
| Latur | 19 | 200,000 | 17 | 264,900 | 7 | 30,000 |

**Hire-Purchase**

Financial assistance to small scale units is also provided through hire-purchase of machinery. The following table indicates the number of applications received, the value of machinery, number of applications accepted and their value, orders placed, and machinery delivered.

TABLE IX

PROGRESS OF HIRE-PURCHASE SCHEME THROUGH NSIC

| *Year* | *No. of application received* | *Value (Rs. million)* | *No. of applications accepted* | *Value (Rs. million)* | *Orders placed value (Rs. million)* | *Machinery delivered (Rs. million)* |
|---|---|---|---|---|---|---|
| 1956-62 | 1,451 | 10.345 | 1,079 | 6.208 | 2.667 | 1.162 |
| 1962-63 | 276 | 2.465 | 191 | 1.527 | 1.531 | 0.661 |
| 1963-64 | 97 | 0.607 | 61 | 0.180 | 0.358 | 1.571 |
| 1964-65 | 127 | 1.070 | 84 | 0.563 | 0.349 | 0.766 |
| 1965-66 | 153 | 1.419 | 90 | 0.587 | 0.362 | 0.341 |
| 1966-67 | 111 | 1.259 | 49 | 0.370 | 0.199 | 0.359 |
| 1967-68 | 107 | 1.309 | N.A. | N.A. | N.A. | 0.506 |
| 1968-69 | 299 | 1.698 | N.A. | N.A. | N.A. | 0.518 |

**Export Promotion**

To augment the foreign exchange resources of the country, special efforts have been made in recent years, to export the products of small industry. To infuse export consciousness amongst small industrialists, training programmes are arranged for equipping them in the techniques of international trading. Intensive counselling in export marketing is also given to individual small industrialists as a follow-up measure of the training programme. As a result of this assistance, a large number of small industries have entered export markets on their own. Besides the training scheme, trading in international markets is also undertaken on behalf of small industries as an institutional assistance by the Maharashtra Small Scale Industries Development Corporation and the State Trading Corporation of India. During 1968-69, the value of export orders procured and executed was Rs. 3.90 million. The main items of export were umbrella ribs, kokum oil, sheep skin, handicrafts, handloom, marine products, and preserved fruits to various countries like Canada, France, USA, USSR, Japan, Italy, etc. To put across to the world market an image of the impressive progress made by small industry in India and its ability to meet the requirements of highly accurate and sophisticated products, the Maharashtra Small Scale Industries Development Corporation has opened sales centres in Paris and New York. These centres have sizeably boosted up the exports to France and USA Table X below gives progressive achievements in exports of small industry products by the MSSIDC.

TABLE X

*Export Performance of MSSIDC*

| *Year* | *Exports (Rs. million)* |
|---|---|
| 1966-67 | 0.37 |
| 1967-68 | 0.61 |
| 1968-69 | 3.90 |

**Small Industries Service Institute, Bombay At Work**

Keeping in tune with the overall development of the small scale sector in the State of Maharashtra, Small Industries Service Institute, Bombay, and its Extension Centres at Poona and Kolhapur played a significant role in providing technical assistance to small scale units in various fields, such as mechanical, electrical, electronics, chemical, pharmaceutical, plastic, leather tanning and leather footwear, ceramics, glass and electroplating.

*Technical Advisory Service*

The progress of the technical and other types of assistance rendered to small scale units is given in the following table:—

TABLE XI

TECHNICAL ASSISTANCE

| Year | No. of visits for on-the-spot advice | No. of parties given purely technical assistance | No. of parties given information to start new industries | No. of parties given other assistance |
|---|---|---|---|---|
| 1961-62 | 3,453 | 12,069 | 3,161 | 6,918 |
| 1962-63 | 4,300 | 2,300 | 1,500 | 3,600 |
| 1963-64 | 4,607 | 3,445 | 3,999 | 10,084 |
| 1964-65 | 4,021 | 3,381 | 3,665 | 7,573 |
| 1965-66 | 3,667 | 3,562 | 4,753 | 10,054 |
| 1966-67 | 12,620 | 4,546 | 6,000 | 12,000 |
| 1967-68 | 19,000 | 4,400 | 8,200 | 9,626 |
| 1968-69 | 21,671 | 5,110 | 6,417 | 6,807 |
| 1969-70 | 20,524 | 6,169 | 4,402 | 7,569 |

Technical advice, guidance and assistance were given to a number of small enterprises consisting of mechanical engineering units, chemical processing units, plastic fabrication units, electrical and electronic goods manufacturing units etc. Out of several problems posed by the small industries which were solved by technical advice and guidance, the more challenging ones, to mention only a few, were the manufacture of transistor valve holders incorporating a number of wire inserts, the designing and fabrication of a suitable boring jig for a unit manufacturing connecting rods for diesel engines, the development of a multicreasing punch for a unit manufacturing card board office files, the manufacture of Sodium-nitrite (an item of import substitution) for which complete process know-how was given, the setting up of an electroplating unit for an entrepreneur who was given initial training, advice on the selection of equipment and all the techniques of electroplating for undertaking commercial job works.

The Workshops and Laboratories attached to the Institute and Extension Centres help small scale units in getting their jobs done and also in testing their products. The value of the job work done by the Institute and Extension Centres during the last three years is indicated below:—

| *Name of Workshop* | *Value of Job Work* (In Rs.) 1967-68 | 1968-69 | 1969-70 |
|---|---|---|---|
| SISI, Bombay | 32,300.00 | 36,058.60 | 23,065.70 |
| IEC, Kolhapur | 43,600.00 | 72,600.58 | 63,585.25 |
| IEC, Poona | 19,880.00 | 21,402.53 | 18,513.01 |

### *Management & Consultancy Service*

With the growth in the size of small enterprises, the need for efficient management and better organisation has also been increasing. To solve the day-to-day management problems, the Institute offers management consultancy service and during the last three years a number of small scale units have taken advice in respect of inventory control, production planning and control, distribution channels, financial control, etc.

With a view to improving operations in the small scale units, the Institute has been conducting Inplant and Diagnostic Studies and making specific recommendations and suggestions. During the last three years, 12 Inplant Studies were conducted by the Institute.

### *Managerial & Technical Training Services*

During the last three years, the Institute conducted 56 courses in Management and provided training to 1,484 persons. It also conducted ad-hoc courses in Industrial Relations, Financial Management & Cost Control, Export Marketing, Marketing & Salesmanship, etc. Among technical trades, courses in Machine Shop practice, Fitting Shop Practice, Electroplating, Blue-Print Reading, Heat-Treatment, Soap, etc., were conducted. The number of persons trained in the various courses of Management and Technical trades is given in the following table:—

TABLE XII

NO. OF PERSONS TRAINED IN VARIOUS COURSES

| *Year* | *Management Courses* | *Technical Courses* |
|---|---|---|
| 1961-62 | 116 | 110 |
| 1962-63 | 135 | 302 |
| 1963-64 | 210 | 204 |
| 1964-65 | 140 | 192 |
| 1965-66 | 125 | 164 |
| 1966-67 | 377 | 242 |
| 1967-68 | 404 | 295 |
| 1968-69 | 468 | 281 |
| 1969-70 | 612 | 170 |

### **Economic Intelligence & Marketing**

With a view to providing adequate and uptodate information on different industries, the Institute has organised Industry Information Service at the Institute premises and Sachivalaya. During the last three years about 18,000 people took advantage of this service. These entrepreneurs were provided information on starting new industries or expansion of existing ones. With a view to feeding the Industry Information Service, the Institute conducts from time to time Industry Surveys in the State and during the last three years data were collected pertaining to 248 industries on different aspects such as demand situation, existing capacity and production, market techniques, and scope for further development.

### Area Surveys

With a view to assessing the scope for development of industries in the under-developed parts of the State, the Instutite has also been conducting Area Surveys. During the last three years, the Institute undertook the following such surveys:

(1) Techno-economic survey of Walva Taluka in Sangli District.
(2) Agro-Industrial Complex of Kolhapur District.
(3) Industrial Potential Survey of Rahuri Taluka in Ahmednagar District.
(4) Techno-Economic Survey of Shrirampur and Rahuri Taluka in Ahmednagar District in connection with the Pilot Rural Electrical Project for Maharashtra State.
(5) Survey of Industrial Estates which have not been fully utilised.
(6) Survey of Successful Industrial Estates at Sangli and Kolhapur.

Out of the 26 districts in Maharashtra, 16 districts have been covered by Industrial Potential Surveys so far.

### Market Studies

This Institute has been conducting Market Surveys (Distribution Aid Surveys) in order to help the manufacturer to explore different areas of markets in the entire Western region consisting of Maharashtra, Madhya Pradesh, Mysore, Gujarat and Goa. These surveys have helped the manufacturers to expand their sales specifically in centres outside Maharashtra. So far, about 50 such studies have been conducted and important among these are—PVC cables, steel wool, steel conveyor belts, wood working machinery, orthopaedic cycles, edible colours, height adjustable revolving stools and chairs and power distribution transformers.

### Intensive Campaigns

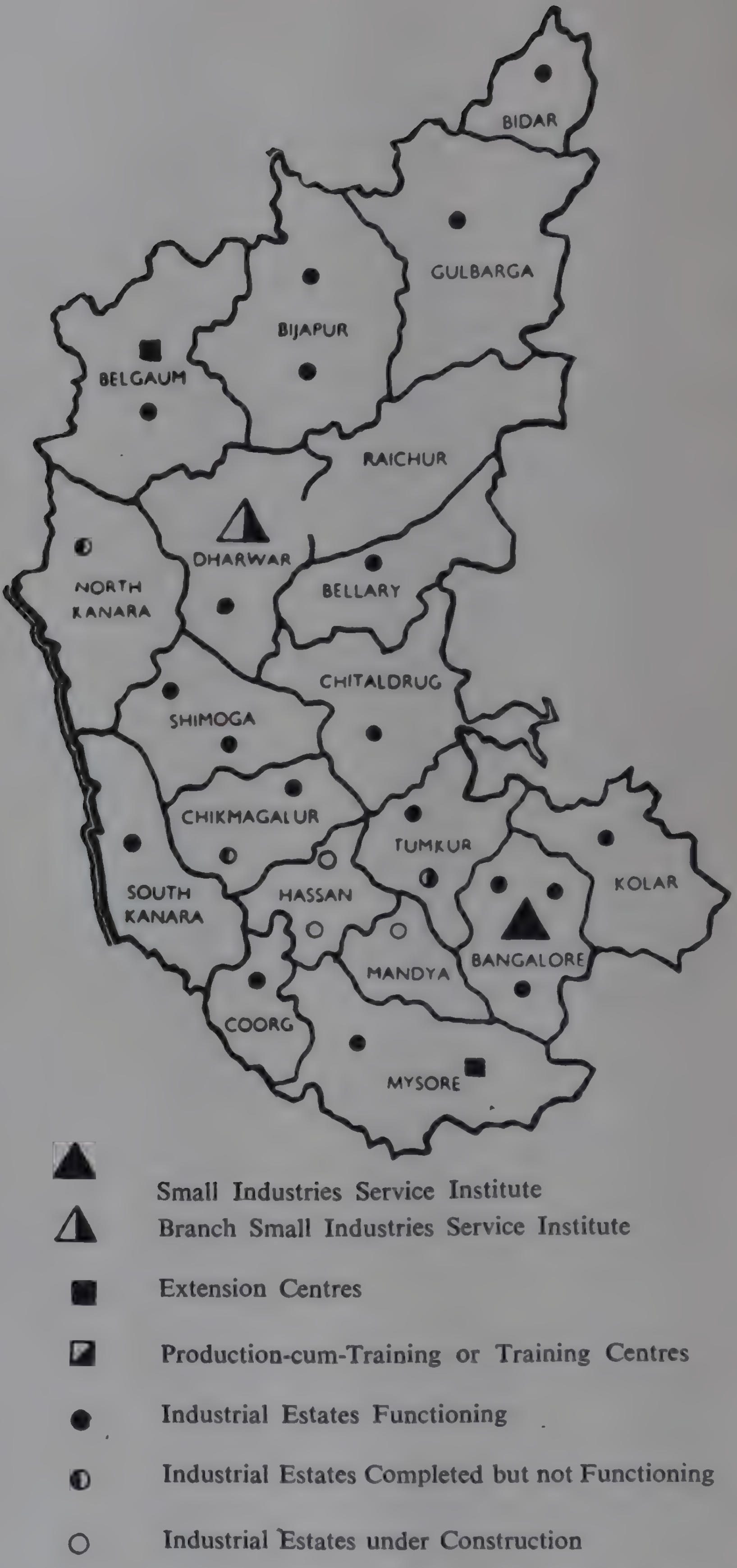
During the last few years, the Institute has made hectic efforts for promotion of new industries in the industrially backward areas of the State through Intensive Industrialisation Campaigns. Out of the 26 districts in Maharashtra, the Institute has so far covered 17 districts. As a result of these Campaigns a number of new units have come up for starting different kinds of industries in these districts.

# MYSORE

### The Early Years

MYSORE State has long been known as a pioneer in industrial development. The State was fortunate in having a number of enlightened Maharajas and far-sighted Dewans who were well-known for their pragmatic approach to problems. No wonder, therefore, the seeds of industry were sown in this State as early as the close of the 19th century when other States had never even thought of the potentialities of industries in fostering economic prosperity. Even in 1884, the Government of Mysore had offered concessions and facilities to the Mysore Spinning and Weaving Mills and saved it from going into liquidation. Timely help was rendered also to the now famous Bangalore Woollen, Cotton and Silk Mills in 1889. The same year Government offered generous concessions to an entrepreneur from outside the State to start a large scale iron works in the State. Even though this scheme did not materialise, it clearly indicated the eagerness of the Government in promoting industries even by attracting investors from outside the State.

Industrialization in the State got a big boost with the commissioning of the first Hydro Electric Power Station in India at Shivasamudram in 1902. By 1912, the number of industrial establishments using electricity rose to 80, which was quite an impressive figure at that time.



▲ Small Industries Service Institute
◭ Branch Small Industries Service Institute
■ Extension Centres
◩ Production-cum-Training or Training Centres
● Industrial Estates Functioning
◐ Industrial Estates Completed but not Functioning
○ Industrial Estates under Construction

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The territorial waters of India extend into the Sea to a distance of twelve nautical miles measured from the appropriate base line.

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*A view of the SISI Building at Bangalore (Mysore)*

### Planning With a Vision

The State had a Planning Body as early as 1911 with powers to formulate and coordinate all policies with regard to agriculture, industries etc. In 1913, the first Director of Industries and Commerce was appointed. The same year, a Government scheme for financing industries was mooted and the State Bank of Mysore was established to assist implementation of the scheme. At the instance of the late Sir M. Viswesvaraiaha who gave the slogan 'Industrialize or Perish', a survey of natural resources in the State was conducted. It was the findings of the survey which helped Sir M. Viswesvaraiaha to take the bold decision of starting in 1923 the Mysore Iron and Steel Works at Bhadravathi; thus laying the foundation for a number of industries using iron and steel. The decade 1931-41 witnessed a remarkable growth of industries. The Hindustan Aeronautics Ltd. was started in 1940 and this formed the nucleus around which a number of other Central Government undertakings sprang up in due course. The Indian Telephone Industries was started in 1952, the Hindustan Machine Tools Ltd. in 1958 and the Bharat Electronics in 1959. The Aero-Engine Factory also came up during 1959. Among the factories sponsored by the State Government after independence, the important ones are the Government Electric Factory, the Government Porcelain Factory and the Radio and Electricals Manufacturing Co. The salient features of the State's Industrial policy at this time were—

1. Encouragement and help to private enterprise.
2. Direct Government enterprise in fields beyond the capacity of private effort.
3. Equity participation and managerial directorship.

### Brief Interruption

The envious position enjoyed by the State in the field of industrial development, was not, uninterrupted. After the reorganization of the States in 1956,

*A view of the sheds in the Industrial Estate in a typical Rural Area.*

the area of the State increased by nearly 2½ times, from 79,207 sq. km. to 192,203 sq. km. The large chunks of areas added to Mysore from the Hyderabad and Bombay States were very much backward industrially compared with the old Mysore State. Added to this, the State was faced with acute shortage of electric power which nullified all attempts at rapid industrialization. The shortage of essential raw materials which was witnessed at the All India level was felt in this State also. The claims for the development of other sectors of the economy gained priority over that of industry due to exigencies of circumstances. However, the single most important factor which stood in the way of industrial development, particularly in the sphere of small industries, was the acute scarcity of power. The rapid development of large scale industries in the State during the earlier years made the position critical in the sense that not even one KW of electrical power could be spared for new industries.

### The Revival

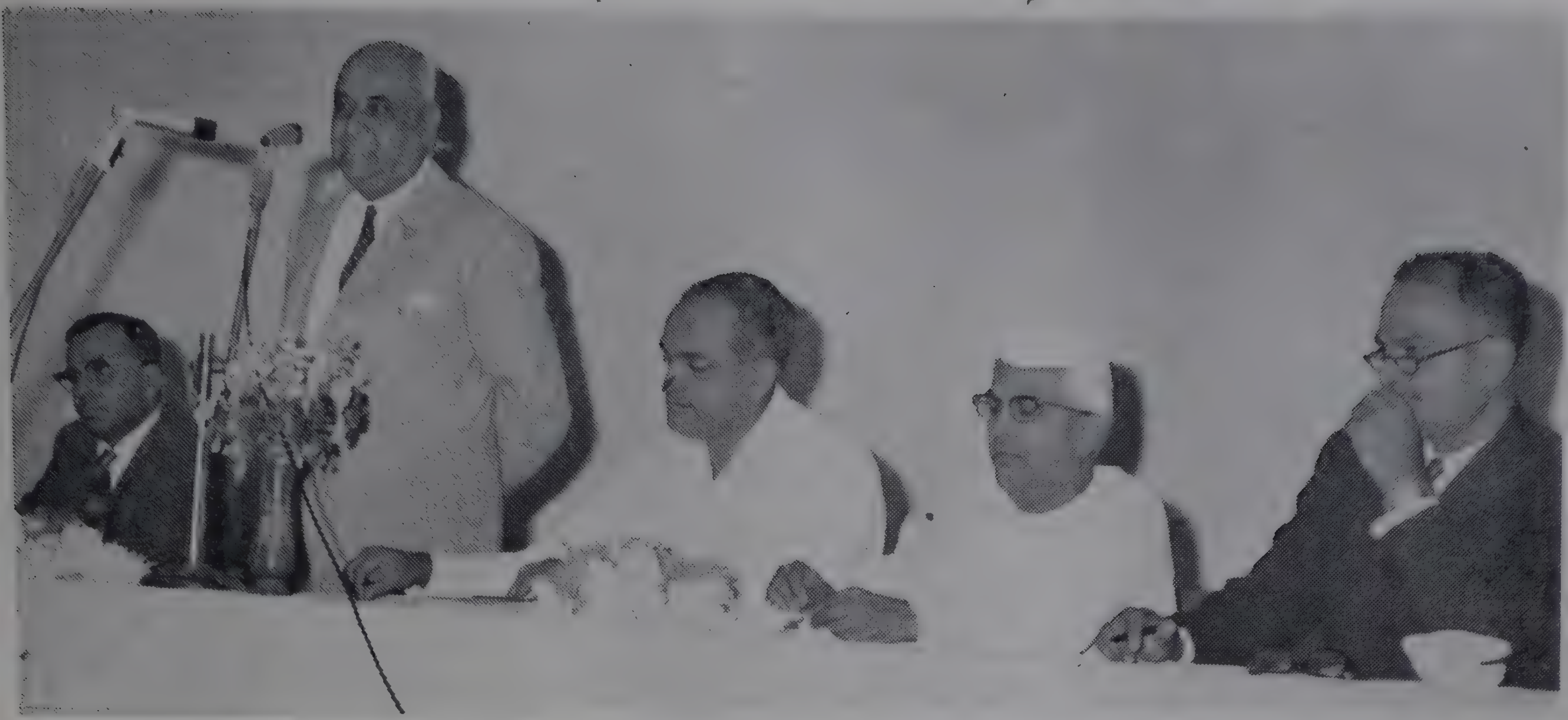
This was the position of industries in Mysore State when the Government of India set up the Central Small Industries Organization (now the SSIDO) for overall development of industries in the country. The Small Industries Service Institute was set up in Bangalore in 1957. The Institute, its branch at Hubli and its extension centres at Belgaum and Mysore provide to small scale units and entrepreneurs in the State, technical assistance and guidance, managerial consultancy and economic advisory services and facilities for training in technical trades and management practice. Thanks to the work done by this and various other organizations, small industries have revived substantial growth during the last few years. The following paragraphs will illustrate the growth of small industries in Mysore State during the past few years.

### Units Registered with the Directorate of Industries

Small scale units in the State are registered by the Directorate of Industries. The number of registered factories increased from 1,200 in 1961 to 5,000 in 1970. The actual number of units will be much more than this figure since registration is only voluntary and not all units get themselves registered. A survey conducted recently by the Bureau of Economics and Statistics in Mysore State has revealed that there are 4,805 unorganised units in the State. At the lowest estimate, therefore, the number of small scale units in the State may be placed around 9,800. In 1967, there were only 8,340 units. The employment in the small scale sector has also increased from 90,000 in 1967 to about 106,000 in 1970.

### Items Manufactured

The variety and range of products manufactured by the small scale units in Mysore State also reflect the progress made in this sector. From the ordinary units that they were, either engaged in the manufacture of traditional articles or undertaking repair and service facilities, small enterprises have emerged as versatile and dynamic units. At present, the items manufactured by them include such sophisticated ones as machine tools, automobile parts, intricate castings,



*Shri K.L. Nanjappa, Development Commissioner (SSI) speaking to entrepreneurs and small industrialists at the SISI, Bangalore. From left to right (sitting) Shri C.R. Ramachandra Rao, Director SISI, Bangalore, Shri A.P. Appanna, Dy. Minister for Industries, Govt. of Mysore, Shri R.S. Aradhya and Shri M. Krishnamurthy of AMSSIA, Bangalore.*

machinery for plastics industry, diesel engines, agricultural machinery, pressure and vacuum gauges, voltmeters, hearing aids, electrical appliances and accessories, rubberised coir, foam rubber, moulded rubber goods, plastic industrial components, monofilament, acrylic sheet, reinforced plastic products, tamarind concentrate, coconut shell flour, malt extract, pharmaceutical products, mosaic tiles, bricks, insulators, scientific glass instruments, tanned leather, leather footwear, travel accessories, etc.

**Special Feature of Small Industries in Mysore State**

A special feature of small industries in Mysore State is that they are mostly ancillary units engaged in the manufacture of parts and components required by large scale factories. The existence of large units like the Hindustan Aircrafts Ltd. (HAL), Indian Telephone Industries (ITI), Hindustan Machine Tools (HMT), Bharat Electronics Ltd. (BEL), Bharat Earth Movers Ltd. (BEML) etc., has helped small units to enter into ancillary relationship with these factories. There are at present two industrial estates in the State specially meant for ancillary units. The HMT Industrial Estate started in 1959 is the first of its kind in India. The second one is the ancillary industrial estate attached to Bharat Electronics Ltd. The HMT Estate has 50 sheds and the BEL Estate 30. The number of organised ancillary units has increased from 50 a decade ago to 400 at present. The annual production of ancillary items by these units is estimated at Rs. 40 million in 1970 as against Rs. 7.2 million only in 1965.

It is pertinent to note that the ancillary units in Mysore State are also undertaking orders from large scale units situated outside the State. A number of units in Belgaum manufacture various parts and components required by M/s. Cooper Engineering Co., Kirloskar Oil Engines, Kirloskar Pneumatics, and TELCO, all situated in Maharashtra State. Similarly, there are a number of small scale units in Bellary District which are working for some of the reputed ready-made dress manufacturers in Bombay.

**Government Stores Purchase Programme**

Even though the scheme of registering small scale units for participation in the Central Government's Stores Purchase Programme was started as early as 1957, much headway was not made in this field. The number of units registered was only around 300 in 1965 and the value of orders secured by the units was very small. Even then, in 1963, 32 small scale units in the State supplied goods worth Rs. 1.65

*Parts and components manufactured by Small Scale Units in Hubli with the assistance of the Industrial Extension Centre, Hubli.*

million for Defence requirements immediately after the Chinese aggression in October, 1962. Creditable progress has now been made both with regard to the registration of units and the value of orders secured. As on 31st March, 1970, there were 741 small scale units registered under the Stores Purchase Programme. The value of orders executed during 1969-70 was Rs. 1.7 million. This figure is quite impressive when compared with the corresponding figure for 1960 which was only Rs. 8,000.

### Industrial Estates

In order to provide modern type of factory accommodation at nominal rates to small scale units, a scheme of construction of industrial estates at places of concentration of industries was taken up. The first industrial estate, that at Rajajinagar in Bangalore, started functioning in 1959. By 1961, Mysore had 8 industrial estates with 127 factory sheds. At present (as on 31.3.1970) there are 22 industrial estates with 299 factory sheds besides the two industrial estates earmarked exclusively for ancillary industries. The industrial estates are located at Bangalore, Belgaum, Bellary, Bidar, Bijapur, Chickmagalur, Dandeli, Gulbarga, Harihar, Hassan, Hubli, Kadur, Kolar, Jamkhandi, Mangalore, Mercara, Mysore, Ramanagaram, Shimoga, Shiralakoppa, Sira and Tumkur. 250 small scale units working in these 22 industrial estates employ 3,400 workers. During 1969-70, these units produced goods valued at Rs. 32.5 million.

The expenditure incurred on the construction of industrial estates was Rs. 5.36 million during the first two Plans. During the Third Plan period, the amount spent was Rs. 7.53 million. The provision for construction of industrial estates during the Fourth Plan is Rs. 17.5 million. The rapid growth of small scale industries has created a good demand for the sheds in the industrial estates, necessitating the construction of many more industrial estates. The Mysore Small Industries Corporation has recently formulated a scheme of 'Own your own shed' by which the tenants of the sheds in the industrial estates can become owners of the sheds under certain terms and conditions.

### Development of Industrial Areas

Under this scheme, the State Government sets apart specific areas for starting industries (large and small) and undertakes development of industrial sites, by providing basic amenities like water, electricity, etc. The construction of buildings for the factories is left to the industrialists while the developed plots are sold to them at economic rates. Eleven centres have been selected for development as Industrial Areas during the Fourth Plan and an amount of Rs. 25.0 million has been provided. The centres selected are:

1. Mysore—Nanjangud.
2. Harihar—Davangere.
3. Hubli—Dharwar
4. Shimoga—Bhadravati
5. Mysore—Belagula
6. Bellary—Hospet
7. Dandeli
8. Belgaum
9. Gulbarga
10. Around Bangalore
11. Around Mangalore

It will be noticed that the centres have been selected with a view to facilitate the dispersal of industries.

### Financial Assistance

In the early days of development, small industries were put to a lot of difficulties owing to want of finance. There were very few financing agencies at that time. Even then the position in Mysore State was better than in other States. The State Bank of Mysore had a scheme of financing industries even before the State Bank of India entered this field. So also, the Rural Industries Financing Bank started in

1952 to provide credit facilities to artisans and rural industrialists under the Rural Industrialisation Scheme formulated by the late Sir M. Viswesvaraiaha is also operating in the State. In spite of this, small industrialists were experiencing considerable hardship in the matter of finance.

At present, finance is provided to small industry mainly by (1) the State Government under the State Aid to Industries Act, (2) the State Bank of India and other nationalised Banks, and (3) the Mysore State Financial Corporation.

The quantum of financial assistance extended to small industries under the State Aid to Industries Act is still not substantial even though the amount disbursed has increased from Rs. 0.3 million during 1961-62 to about Rs. 3.0 million during 1969-70. The Banks, on the other hand, have extended and expanded their lending activities to small units at a very fast rate. As on 31.3.1970, the State Bank of India and its subsidiaries had sanctioned limits aggregating to Rs. 191 million to 2649 small scale units in Mysore State. Steady improvement has also been recorded in the financial assistance programme of the Mysore State Financial Corporation which was set up only in 1959. During 1961-62 the Corporation had advanced loans totalling Rs. 3.2 million to 68 small enterprises. During 1969-70 the loans disbursed amount to Rs. 10.38 million. The number of units benefited was 50. The total number of small scale units assisted since the inception of the Mysore State Financial Corporation (MSFC) is 403 and the loan disbursed Rs. 32.36 million.

### Machinery on Hire Purchase

The scheme of the National Small Industries Corporation for supplying machinery on hire purchase basis has greatly helped the growth of small industries. The value of machines supplied to small scale units in Mysore State under this scheme was Rs. 5.33 million as on 31st March 1962. This figure as on 31st March, 1970, has gone up to Rs. 49.00 million. The number of applications entertained and disposed of as on that date was 3640. The NSIC supplies machinery on hire purchase to both existing as well as new enterprises. On a rough estimate, it can be concluded that about 1,000 new small scale units would have come up as a direct result of the hire purchase scheme in this State.

### SISI Bangalore and its Part in the Development of Small Industries

It will thus be seen that Mysore has made rapid strides in small industry development during the past decade. This has been made possible by the concerted efforts of various organizations committed to the cause of small industry development. In the following pages, a brief account of the contribution of the Small Industries Service Institute, Bangalore in the development of small industries in Mysore State is given.

*The SISI works in close collaboration with State Government Departments, Public Sector Undertakings and other organisations like the Mysore Chamber of Commerce & Industry. Picture shows Shri K.L. Nanjappa, Development Commissioner (SSI) is at the extreme left.*

### Technical Assistance

The main assistance provided to small industries by the Institute and its Extension Centres is in solving technical problems faced by the units. The Institute has technical officers in Mechanical Engineering, Chemicals, Leather Footwear and Tanning, Glass and Ceramics, Economic Investigation and Industrial Management and Training. These officers regularly visit small scale units to get a first hand knowledge of the difficulties experienced by them and render timely assistance. During the period between 1960 and 1970 the Small Industries Service Institute has rendered technical assistance in 26,935 cases, has given guidance and information to 19,084 entrepreneurs for starting new industries and has extended various types of other assistance in 52,082 cases. The Institute can take justifiable pride in saying that it has played a significant role in bringing about a certain degree of diversification and sophistication in the small scale sector as is amply illustrated by the distribution of units and the items manufactured by them at present.

### Workshop and Laboratory Service

The Workshops of the Institute at Bangalore and Hubli and those attached to the Industrial Extension Centres at Mysore and Belgaum extend common service facilities to small scale units. More and more units are taking advantage of the services provided by these workshops as is brought out by the fact that 1297 units availed of their services during 1969-70 as against only 711 during 1967-68. The service charges earned by the workshops has also increased from Rs. 55,829 during 1967-68 to Rs. 76,145 during 1969-70. The workshops have assisted a number of units in manufacturing complicated items which were hitherto imported or were not made in the country, and have also developed and manufactured tools and jigs. The Institute is also running a Chemical Laboratory for testing various chemical products manufactured by small scale units. Recently, a leather workshop has been added for the benefit or units in the leather industry.

**Economic Investigation and Information Service**

The Institute answers a number of enquiries from private entrepreneurs and institutions on various points and thus helps them in taking business decisions or in the case of governmental agencies, helps them to formulate policies for industrial development. Enquiries generally received pertain to production and capacity of existing units, availability of equipment and raw materials, marketing prospects, scope for manufacturing particular products etc. During the period 1967-70, the Institute has attended to 5606 such enquiries.

**Area Surveys**

The Economic Investigation Section of the Institute conducts Area Surveys in particular areas to assess the potentialities for industrial development. Generally, these surveys are undertaken at the instance of the State Government or other agencies engaged in the promotion of industries. The Institute has so far conducted Area Surveys in 18 out of the 19 Districts in Mysore State in addition to a number of surveys undertaken on an ad-hoc basis.

**Industry Prospect Sheets and Index Cards**

Studies on specific products are undertaken by the Institute to ascertain the existing position of the industry and the scope for manufacturing the product in the small scale sector. These studies prove very useful for disseminating information to prospective entrepreneurs. During the last three years, the Institute has prepared 113 Industry Prospect Sheets. The information collected from industrial units is recorded in index cards for future reference. The Institute has so far prepared 1583 index cards.

**Intensive Development Campaigns**

In order to accelerate the pace of industrialization, the Institute conducts intensive development campaigns in collaboration with the Directorate of Industries, the State Bank of India, and other nationalized banks. Details of the various assistance programmes available to small industries and the scope for starting various small industries are explained to the prospective entrepreneurs. This helps to motivate the rural entrepreneur and helps him in selecting the right type of industry. A special feature of the campaign is that applications for machinery on hire purchase and for financial assistance from banks are processed on the spot with the help of representatives from the respective agencies. The Institute has so far conducted 17 campaigns. During the three campaigns conducted in the preceding three years, 221 applications for machinery costing Rs. 4.47 million were processed in addition to 62 applications to banks for loans totalling Rs. 1.06 million.

**Managerial And Technical Training Service**

Training facilities, both on the management side and on the training side are provided to small industrialists by the SISI and its Extension Centres. The training courses in management cover various aspects of management such as, Production Management, Marketing Management, Financial Management, Export Promotion etc. Technical training is imparted in various trades such as, Machinists' course, Tool and Die-making, Heat-treatment, Scientific Glass Graduation, Blue Print Reading, Leather Goods Manufacture, Manufacture of Chalk Crayons, Candles, Sealing Wax etc. Since the inception of the Institute, 862 persons in Industrial Management, and 2903 persons in technical trades have been trained.

In addition to the training courses mentioned above, the Institute also conducts ad-hoc training courses in various subjects. The Information course conducted for the benefit of unemployed engineers is an ad-hoc course worth mentioning since it was an attempt to make the engineers familiar with the small industries programme and prospects and thereby motivate them to start small industries.

The Institute also conducts training courses for artisans by means of three mobile workshops in Carpentry, Blacksmithy and Leather Trades. During the last three years the mobile vans have visited 220 places and given 1160 demonstrations in the use of modern machines. Fourteen training courses have been conducted and 541 artisans trained.

**Seminars And Open House Discussions**

The Institute also organises Seminars and Open

House Discussions whereby small industrialists, prospective entrepreneurs and representatives of development organisations are brought to a common platform to discuss their problems and take remedial steps. On an average, three Seminars/Open House Discussions are conducted every year. Two Seminars were conducted during 1969-70, one on Plastics and the other on Industrial Development. During the same period, three Open House Discussions were held on Sub-contracting, Modernization of Small Scale Industries, and Aluminium-based Industries.

**Exhibitions**

The Institute has organized within its premises a permanent exhibition of products manufactured by small scale industries. Visitors to the exhibitions get a good idea of the wide range of products, manufactured by small scale industries and the scope for further development. Items required by various large scale units are also displayed in the exhibition. Often, after visiting the exhibition and studying the products displayed there, a prospective entrepreneur is able to select the item he would like to manufacture.

The Institute has also taken part in important exhibitions organised by other departments and agencies. It has participated several times in the Industrial and Agricultural Exhibitions held at Mysore every year during the Dassara Exhibition and has won gold medals.

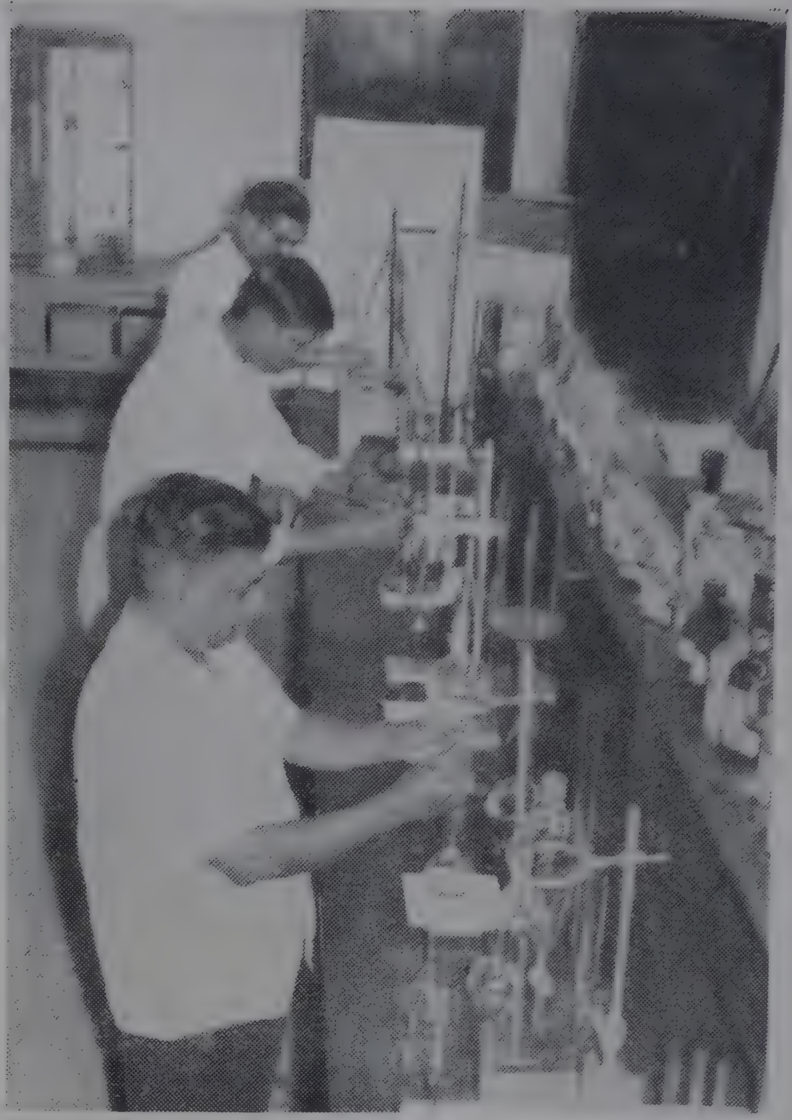
**Export Promotion**

In order to encourage and assist small industries in exporting their products to foreign countries to earn the much-needed foreign exchange, the Small Industries Service Institute is rendering export counselling service. It has prepared a "Guide to Exporters" and has so far assisted more than 100 parties by furnishing them with information on exports. As a result of the export counselling work of this Institute, 15 small scale units have succeeded in exporting their products. The products exported include items, such as brass lamp holders, agricultural implements, aluminium builders' hardware, machine vices etc. The value of products exported by small scale units at present is around Rs. 5 crores.

**Ancillary Development**

As mentioned earlier, ancillary production is a special feature of small industries in Mysore. The Institute, therefore, puts forth sustained efforts in promoting and developing small scale industries in this field. It is in touch with all important large scale factories in the State and has conducted detailed studies in the Indian Telephone Industries and Bharat Electronics Ltd., to locate items which can profitably be manufactured by small scale units. About 150 items have been located and the Institute is taking steps to find out entrepreneurs to take up manufacture of these items. Already 6 engineering graduates have come forward to manufacture some of these items. The Institute has helped them in the preparation of Project Reports and is closely associated with these ventures.

Besides helping the small scale units and large scale units in Mysore State, the Institute also helps large scale units outside the State by locating ancillary units. It is regularly getting enquiries from about a dozen large scale units outside the State, seeking assistance in spotting out ancillary units.



*SISI Bangalore's Chemical Laboratory at work. Analysis of chemical products manufactured by small enterprises*

*Electroplating in the SISI Workshop in progress*

**Rural Industrialisation**

There are three Rural Industries Projects in Mysore State viz. Tumkur-Gubbi, Hubli-Dharwar, and Shimoga-Bhadravathi. The Small Industries Service Institute has been rendering active assistance to the Project authorities in the development of small scale industries in these areas. Providing technical guidance and managerial advice to existing units, identifying prospective lines of manufacture for entrepreneurs and conducting intensive campaigns for the rapid growth of small scale units are the important services which are being rendered in the RIP areas by the Institute.

**The Future**

Mysore State is rich in natural resources which are yet to be tapped in full. A Steel Plant utilising the rich iron ore resources of the State has already been licensed and the work for its construction will be taken up shortly. The Industrial Development Corporation has already sponsored a company for the exploitation of copper, pyrites and sulphur. An aluminium factory is in production in the State for the last two years. The rich deposits of asbestos found near Hollenarasipur in Hassan District aslo offers good scope for exploitation.

The forest resources of the State are also not utilised to the full extent; bamboo and various types of valuable timber hold out potentialities for starting wood-based industries like paper, plywood, rayon, flush doors etc.

Another fertile field for industrial development lies in the exploitation of the rich marine resources of the State. The schemes contemplated under fisheries development aim at increasing the present catch fivefold during the next five years.

The remarkable progress made in the field of agriculture has provided a strong base for agro industries. A fertilizer factory is already coming up at Mangalore in the large scale sector. Others for the manufacture of pesticides, improved agricultural implements, plastic compounds, etc. are also in the offing.

Special steps are also being taken to strengthen the infra-structure in the State. A major harbour is being developed at Mangalore; and Karwar is planned to be developed as an all-weather intermediary port. Malpe is proposed to be developed as a fishing harbour. The Hassan-Mangalore Railway and the West-coast road linking Bombay with all the important towns in the West coast are nearing completion.

The completion of all these development programmes is bound to accelerate the development of trade and industry. The All India Power Survey Committee has estimated the demand for power in Mysore State to reach 3200 MW by 1980-81, as against 938 MW only in 1970-71. The hydropower potential of Mysore State is five million KW and Government have already started investigations to take up other major hydro-electric projects to meet the power needs of the State in future.

The Government of Mysore have also announced a number of incentives to new industries. The important incentives offered are:—

(1) Contribution to the cost of preparation of feasibility reports;

(2) Concessions in electricity tariff in the case of selected industries for specified periods.

(3) Concessions in sales tax;

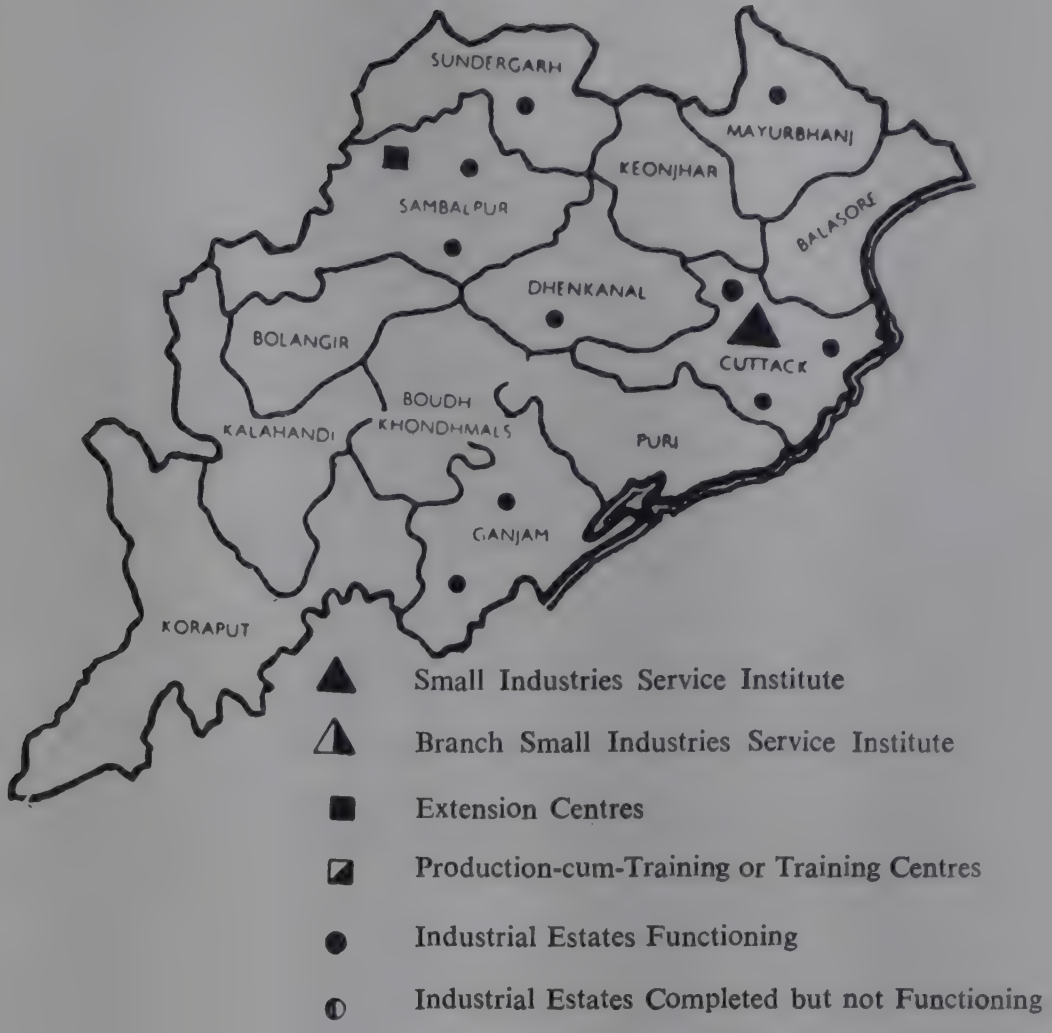
(4) Relief from octroi; and

(5) Reservation of Government Purchases for products of new industries.

In view of the development potentialities and facilities and concessions offered, many factories in other States have started migrating to Mysore State. In addition, technically qualified persons who had gone out to other States in search of employment have now started coming back to their home State with their rich experience. There is thus a rush of entrepreneurs to set up new factories in the State.

A number of large factories are coming up in the State. Small industries in Mysore State, with their long experience of manufacturing ancillary items for large units, will no doubt avail themselves of the expanding opportunities in a larger measure in the years to come. The story of their development has only just begun. The best is yet to be.

# ORISSA


SUNDERGARH
MAYURBHANJ
KEONJHAR
SAMBALPUR
BALASORE
DHENKANAL
BOLANGIR
CUTTACK
BOUDH KHONDHMALS
KALAHANDI
PURI
GANJAM
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▲ Small Industries Service Institute
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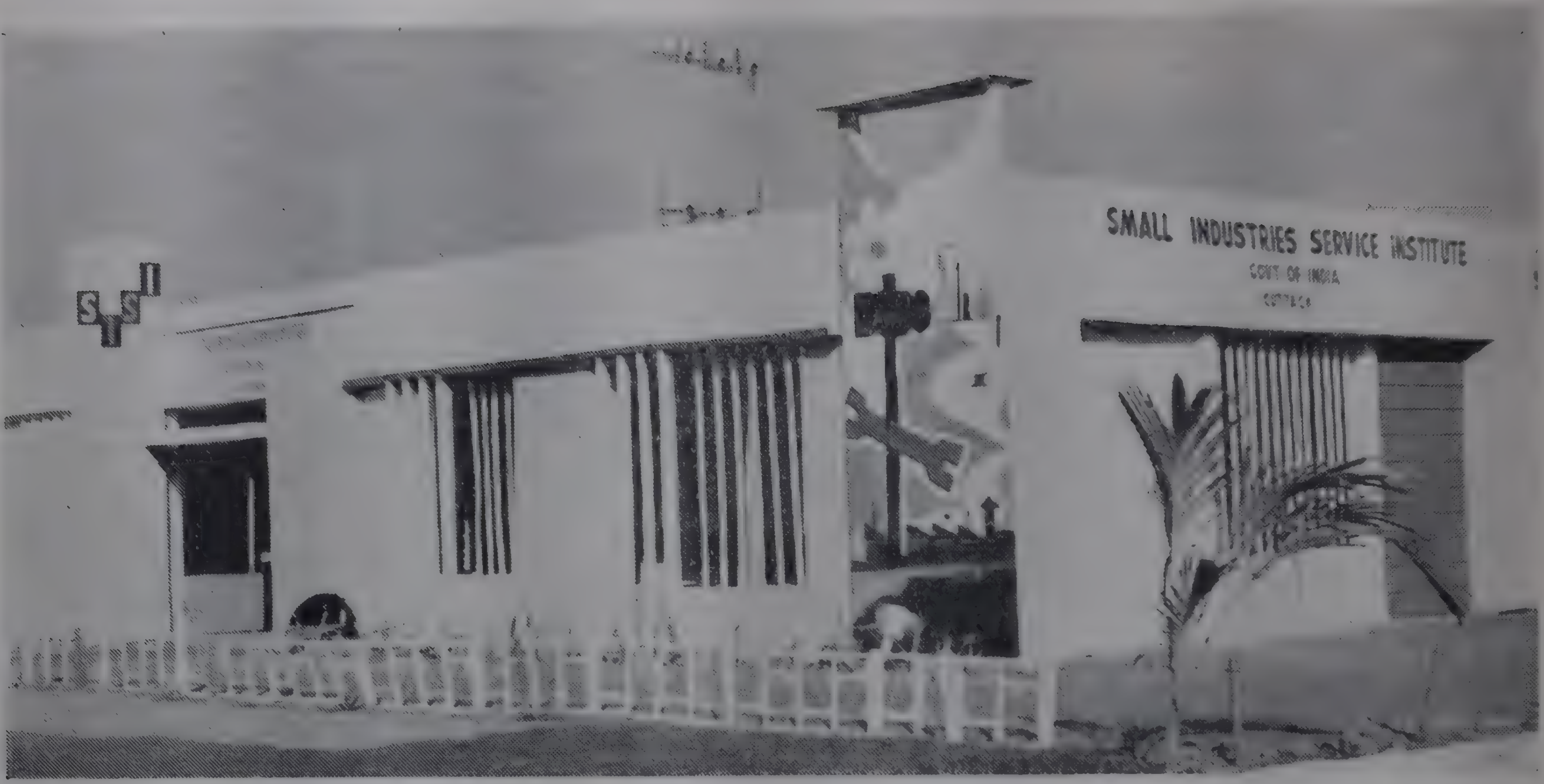
ORISSA has remained industrially backward despite its economic wealth, mineral and forest resources. Excessive dependence on agriculture characterised by out-moded practices, inadequate transport and communication facilities and electric power and lack of entrepreneurial ability have contributed to the stagnant economic conditions in the State. These impediments in the way of progress could, however, be removed only gradually since 1950-51 when the First Five Year Plan for the economic development of the State was launched. During the First Five Year Plan period considerable efforts were made for the development of essential infrastructure facilities. The emphasis in the Second Five Year Plan was on industrialisation through identification of industrial growth centres in the State and to encourage the development of industries in such centres. The process of industrialisation was continued more intensively during the Third Five Year Plan period when the Government set up large and medium industries in the public sector. As a result of these efforts there had been considerable economic development. All the important industrial and agricultural centres have been connected by railways, highways and inland water transport and abundant power is available from hydro-electric and thermal power projects in the State. These facilities and the availability of abundant mineral, forest and agricultural resources gave an impetus to the development of the State. Proximity of the industrial centres in the adjoining States of Bihar and West Bengal is also an additional advantage.

At present there are 45 large and medium industrial enterprises and 3,829 small enterprises in the State. Future development of industries is expected to be around such centres as Rourkela, Paradeep, Talcher, Jaipur Road in Koraput district. The pace of economic development could be accelerated by the



*A view of the Pavilion put up by SISI, Cuttack in a recent Exhibition*

promotion of small scale industries which can utilise vast untapped resources and can create employment opportunities for a large number of people in the State.

**Growth of Small Scale Industries**

The number of small scale units registered with the Directorate of Industries rose from 1,564 in 1961 to 3,829 in 1969. Manufacture of agricultural implements, domestic and builders' hardware, sheet metal products, ceramic and glasswares, storage batteries and paints and varnishes are some of the important lines of production in the small scale sector of industry in the State. The important centres of small industry development are Cuttack, Ganjam, Sambalpur and Puri. The districtwise distribution of registered enterprises is given in table I.

TABLE I

| District | No. of registered small scale units (1969) |
|---|---|
| Balasore | 383 |
| Phulbani | 15 |
| Bolangir | 163 |
| Cuttack | 1173 |
| Dhenkanal | 40 |
| Ganjam | 867 |
| Kalahandi | 53 |
| Keonjhar | 38 |
| Koraput | 190 |
| Mayurbhanj | 112 |
| Puri | 274 |
| Sambalpur | 340 |
| Sundargarh | 181 |
| Total | 3829 |

The Government of Orissa launched two programmes to promote the development of small scale industries in the State. These schemes were known as Panchayat Samiti Industries Programme and Pilot Project Programme. Under the Panchayat Samiti Industries Programme initiated in the year 1961-62 a number of small enterprises like open-pan sugar mills, rice mills, tile factories, carpentry and light engineering works, aluminium utensil units, cold storage, oil mills, leather footwear etc., were set up and by the end of the Third Plan period there were about 130 such small enterprises. Thus the primary objective of rural industrialisation was achieved through the implementation of the programme.

The Pilot Project Programme was introduced by the State Government in 1958. Under this programme special encouragement was given to entrepreneurs (having technical know-how and skill) who had proposals to set up new small enterprises having good prospects of development. The State Government contributed to the equity share capital of such small industry projects to the extent of 90%, only 10%

*Front view of the SISI, Cuttack*

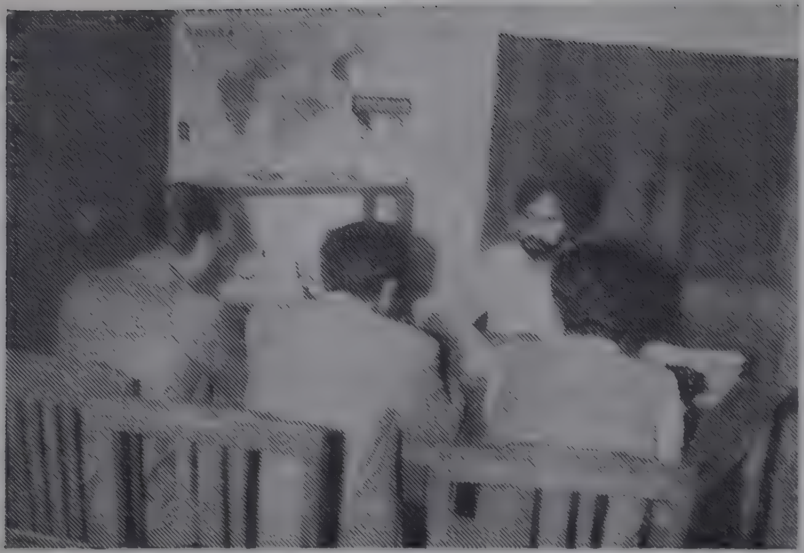
being the contribution of the entrepreneur under this programme. The response to this scheme from the entrepreneurs was satisfactory and about 42 'pilot project' enterprises were set up. However, at present only 27 units are working, the others having been closed down owing to several difficulties like shortage of raw material, market for the products being restricted to Government purchase and lack of initiative on the part of entrepreneurs since their stake in the enterprises was very limited.

Another measure taken by the State Government for the development of small scale industries was the establishment of the Orissa State Small Industries Corporation. The Corporation has many functions such as provision of finance, distribution of scarce raw materials, construction of factory sheds, supply of machinery, marketing assistance etc., to small enterprises in the State.

The Corporation has, since its inception, assisted the small enterprises started under the Panchayat Samiti Industries Programme, and set up a group of industries in the Koraput district for the rehabilitation of East Pakistan refugees. A factory for the manufacture of optical and oceanographic instruments was also set up by this Corporation.

**Development of Ancillaries**

Recognizing the scope for the development of ancillary industries in the State, the State Government has set up an Ancillary Advisory Committee. Initially 39 items were identified for manufacture in the small scale sector. In course of time many more items



*Information counter at the SISI, Cuttack*

have been taken up for ancillary production on the advice and assistance of the Small Industries Service Institute, Cuttack. At present there are about 120 small enterprises engaged in the production of a variety of ancillary items. During the year 1968-69 the value of ancillary stores supplied to large scale enterprises was Rs. 11.8 million which is more than seven times the value of supplies made in 1965.

### Industrial Estates

Establishment of industrial estates having ready made factory sheds, amenities of power, water, watch and ward etc. and facilities of common services have been the important measures taken by the State Government for the development of small scale industries. The number of industrial estates in the State together with production and employment by each estate is indicated in the table II below.

TABLE II

**Position of Industrial Estates in Orissa State(1969-70)**

| Location of the Industrial Estate | Total | Production (in Rs. million) | Employment (Nos.) |
|---|---|---|---|
| Cuttack | 72 | 13.23 | 657 |
| Kendrapara | 11 | 0.70 | 95 |
| Jagatpur | 11 | 2.33 | 205 |
| Rourkela | 38 | 9.14 | 510 |
| Jharsuguda | 15 | 0.84 | 61 |
| Sambalpur | 7 | 0.50 | 15 |
| Berhampur | 15 | 2.70 | 213 |
| Parlakhemendi | 4 | 0.03 | 9 |
| Dhenkanal | 4 | 0.42 | 8 |
| Takatpur | 12 | 0.04 | 34 |
| Total | 189 | 29.93 | 1807 |

### Role of the Small Industries Service Institute, Cuttack

The Small Industries Service Institute, Cuttack provides various services such as economic information, technical advice and guidance, management consultancy, training in technical trades and in industrial management etc., to small industrialists and entrepreneurs. The Institute has an Extension Centre at Jharsuguda to assist local units engaged in the light engineering industry.

The Economic Investigation section of the Institute provides economic information on small enterprises having scope for development based on the data collected through various studies and surveys. The Institute has completed industrial potentialities surveys of eight districts in the State and has furnished the State Government with reports on the surveys giving them the guidelines for the development of small scale industries. Industry Prospect Sheets on a number of items have also been prepared to guide entrepreneurs to take up new ventures. Market surveys were also undertaken to collect essential information on marketing channels, prices, methods of publicity, incentives offered etc., to help small industrialists in marketing their products.

Technical advice and guidance are being given by the officers of the Institute to various small enterprises engaged in electrical engineering, mechanical engineering, metal finishing and in the ceramic, chemical and leather industries. Training in various technical trades is also being given to workers sponsored by the small industrialists at regular intervals.

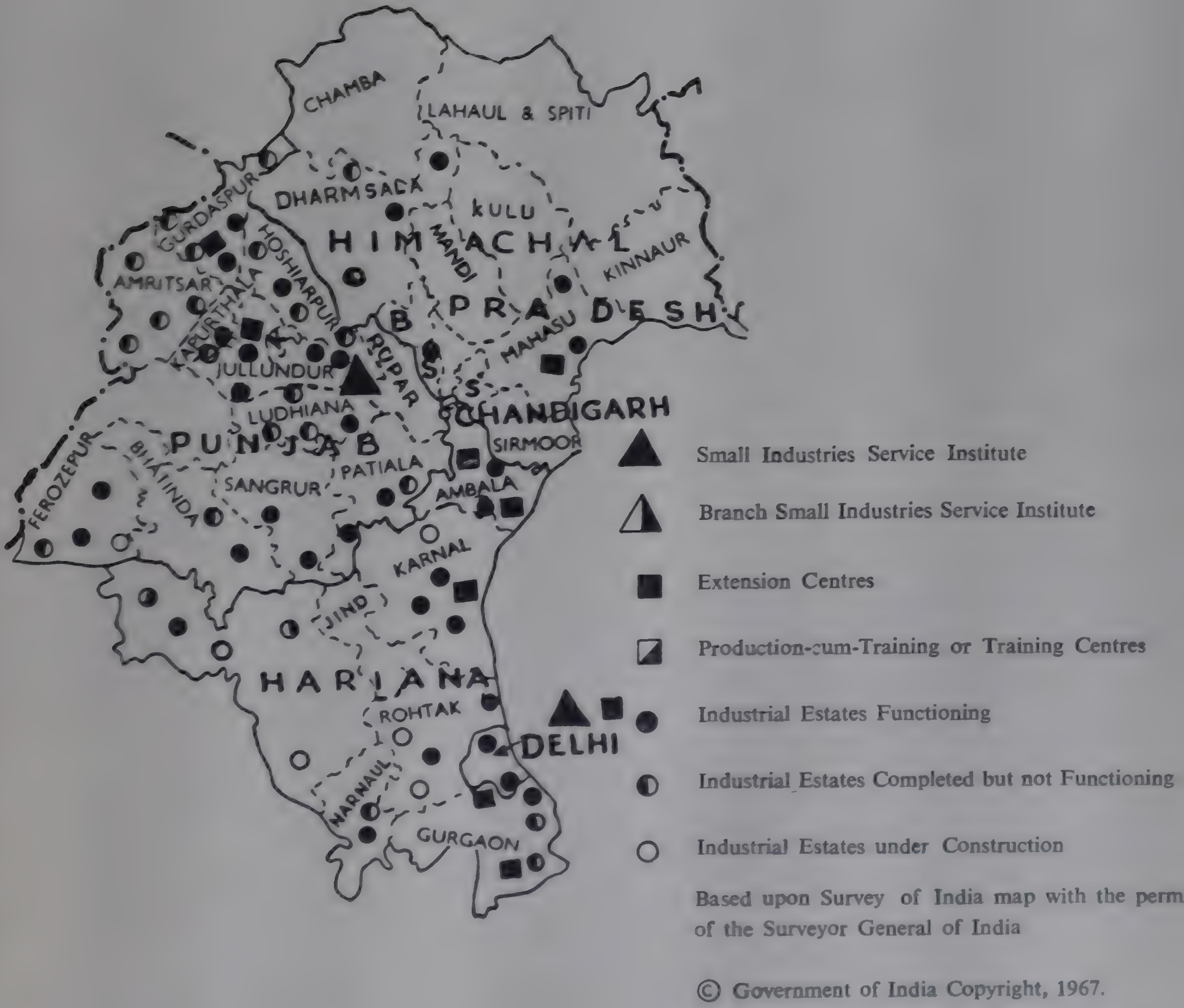
Management consultancy service and training in industrial management are also available to small industrialists. Training courses are conducted in personnel management, financial and cost control, marketing etc., for the benefit of small industrialists. Open House Discussions and Seminars are also conducted to tackle certain problems common to various units in an industry by mutual discussion and exchange of views.

The Institute also organises and participates in exhibitions of products made in the small industries sector so as to highlight the progress of small industries in the country in various lines of production and to induce entrepreneurs in the State to take up the manufacture of new products. "National Agro Industries Fair" at Cuttack, "Small Industries Exhibition" at Balasore and "Orissa 70 Industrial Exhibition" at Bhubaneswar were conducted during the year 1970. A number of small industrialists in the State participated in these exhibitions.

# PUNJAB
# &
# HARYANA

PUNJAB today occupies an important position in the industrial map of India. A visit to towns like Ludhiana, Amritsar, Jullundur, Gobindgarh, Goraya, Phagwara and Batala, to mention but a few, will convince an entrepreneur of the potential for industrialisation in Punjab. The hosiery and engineering industries of Ludhiana, the woollen textile industry of Amritsar, the machine tools and agricultural implements industry of Batala, the sports goods, pipe fittings and electrical industries of Jullundur are well organised small indusries in the industrial sphere. These products have found markets all over the world.

The industrial progress of Punjab had received a severe set back during and after the Indo-Pakistan conflict. Many small industrialists were forced to close down their units for want of finances and other



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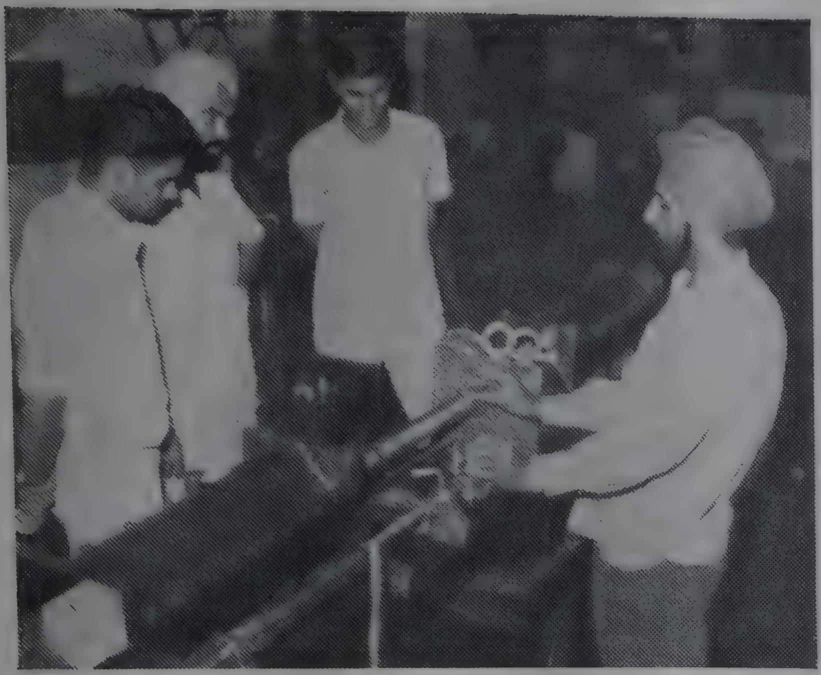
*A front view of the SISI Ludhiana. (Punjab)*

necessary facilities. Some industries like machine tools, diesel engines and cycle parts have just recovered from the effects of recession as a result of the liberalisation of credit facilities to small scale units consequent on the nationalisation of banks. The "green revolution" in Punjab has played its decisive role for boosting the economy of the State. Following a big break through in the agricultural production in this border State, the agricultural machinery and equipment manufacturing industry has made rapid progress during the last few years. Punjab has launched a massive programme of rapid industrialisation as it is felt that future economic prosperity of the State hinges on the balanced development of the industrial sector. It is gratifying to note that the number of small scale units registered with the Directorate of Industries has increased from 15,688 in 1966-67 to over 23,000 at the end of 1969-70.

The District wise split up of these units is as under:

| District | No. of Regd. Small Scale Units |
|---|---|
| Amritsar | 4,837 |
| Ludhiana | 6,846 |
| Jullundur | 3,705 |
| Bhatinda | 739 |
| Gurdaspur | 1,306 |
| Sangrur | 1,888 |
| Ropar | 236 |
| Kapurthala | 499 |
| Hoshiarpur | 733 |
| Patiala | 1,689 |
| Ferozepur | 779 |



*Broach designed and developed by the SISI Tool Room, Ludhiana, in operation on a broaching machine in a small scale unit manufacturing bicyle Free Wheels*

In addition to these registered small scale units in the State, there is an equal number of unregistered small units too. Basic data regarding number of units, production, employment, etc. in respect of important small scale industries of the State is as under :

| S.No. | Name of Industry | No. of units | Production during 1968-69 (Rs. million) | Employment (No.) |
|---|---|---|---|---|
| 1. | Machine Tools and Agricultural Implements | 4398 | 145.617 | 22,938 |
| 2. | Cycles | 9 | 11.801 | 4,850 |
| 3. | Cycle Parts | 802 | N.A. | 7,332 |
| 4. | Sewing Machines | 30 | 25828 (Nos.) | 2,457 |
| 5. | Sewing Machine Parts | 344 | 25.180 | 3,550 |
| 6. | Steel Re-rolling | 129 | 128.167 | 4,123 |
| 7. | Water Pipe Fittings | 232 | 37.098 | 3,614 |
| 8. | Hosiery | 2317 | 93.172 | 15,312 |
| 9. | Sports Goods | 281 | 20.963 | 5,496 |
| 10. | Rubber Goods | 203 | 43.899 | 3,152 |
| 11. | Automobile Parts | 474 | 42.841 | 6,428 |

There is ample scope for industrial development in Punjab in the field of agro-industries, chemicals, petro-chemicals, electrical engineering and electronic industries. The Punjabi workman has the knack for handling the most complex machinery and has a flair for learning new techniques.

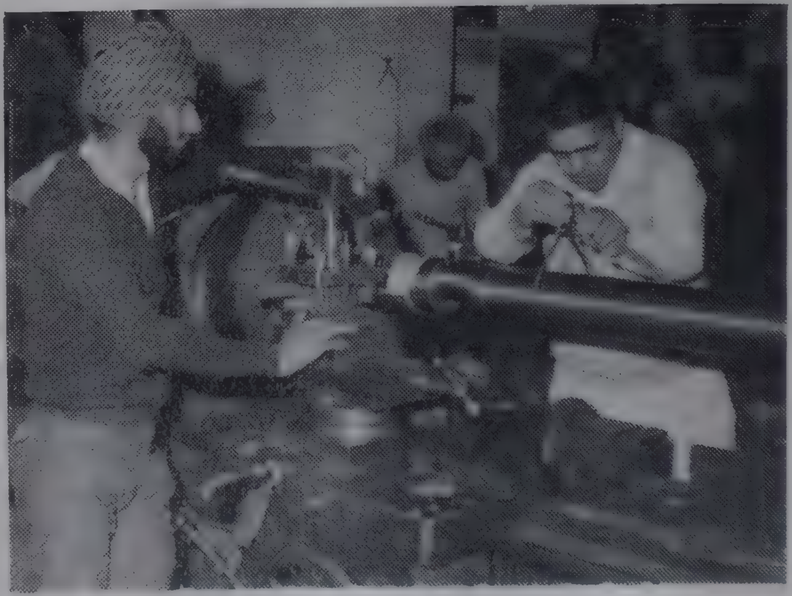
There are various agencies which are engaged in the development of small scale industries. At the central level there is the office of Director, Small Industries Service Institute at Ludhiana with its Extension Centres at Jullundur, Batala and Solan rendering technical counselling, training, preparation and distribution of technical bulletins, drawings and designs, economic information service, industrial management service, etc. The statistical details of assistance rendered by this Institute to various small scale units during 1969-70 is as given below :

| | | |
|---|---|---|
| 1. | Entrepreneurs contacted | 12,777 |
| 2. | Entrepreneurs given tech. advice | 5,935 |
| 3. | Entrepreneurs given information to start new industries | 793 |
| 4. | Entrepreneurs given other assistance | 4,948 |
| 5. | Entrepreneurs given management advice | 237 |
| 6. | Entrepreneurs given economic information | 544 |
| 7. | Entrepreneurs given export assistance | 320 |

The job-works of the workshop and the facilities of the laboratory earned the revenue of Rs. 58,473 during 1969-70. Besides this the income from design cell by way of selling blue prints and designs amounted to Rs. 1,536.

The State Government has taken the following

*Snap gauges being ground to precision in the Tool Room of the SISI, Ludhiana*



*A view of the entrepreneurs who assembled at the Intensive Campaign in Himachal Pradesh.*

steps to promote the growth of small scale industries:

(a) Focal points of industrial growth have been located at Dhandari Kalan near Ludhiana, Mohali near Chandigarh and Rajpura in Patiala District. At these places a package of concessions in respect of provision of utilities, tax-holiday (sales tax), exemption from electricity duty and price preferences in Government purchases have been provided.

(b) Every District has been provided with urban and rural Industrial Estates which offer factory sheds with water and power facilities. These sheds are available on concessional rents for setting up small enterprises. There are in all 11 urban and 20 rural Industrial Estates in Punjab. The following table gives the position of successful Industrial Estates in the State:

| S.No. | Name of Estate | Total sheds | No. of Units functioning | Half yearly production (Rs. million) | Employment (Nos.) |
|---|---|---|---|---|---|
| 1. | Batala | 50 | 43 | 2.329 | 324 |
| 2. | Gurdaspur | 10 | 5 | 0.041 | 15 |
| 3. | Hoshiarpur | 20 | 16 | 0.365 | 92 |
| 4. | Jullundur | 34 | 29 | 0.890 | 157 |
| 5. | Rurka Kalan | 11 | 4 | 0.069 | 24 |
| 6. | Ludhiana | 223 | 197 | 9.090 | 1283 |
| 7. | Malerkotla | 30 | 8 | 0.423 | 53 |
| 8. | Bhatinda | 20 | 11 | 0.618 | 72 |
| 9. | Patiala | 20 | 11 | 0.905 | 99 |
| 10. | Rajpura | 20 | 12 | 0.104 | 39 |

(c) The following autonomous corporations to promote and finance new projects have been established:

### *Punjab State Industrial Development Corporation*

The Corporation had been set up with a view to promoting large scale and medium scale industries in the State. The Corporation investigates the techno-economic feasibility of new projects and procures industrial licences from Government of India. When the project is ripe for implementation, private entrepreneurs are invited to collaborate with the Corporation in implementing the project.

The details of projects with investment-in-hand of this Corporation are given below:

*(Rs. millions)*

| Projects | Total investment to be made by PSIDC up to June, 1970 | Investment made to date. | Investment to be made by June, 1971 |
|---|---|---|---|
| Punjab Breweries Limited | 3.825 | 1.500 | 1.000 |
| Punjab Con-cast Steels Limited | 3.250 | 1.000 | 1.500 |
| Punjab Tractors Limited | 3.000 | 0.700 | 2.300 |
| Punjab Saltpetre Refinery Pvt. Ltd. | 0.255 | 0.255 | — |
| Punjab Pre-stressed Concrete Works Pvt. Ltd. | 0.300 | 0.300 | — |
| Punjab Footwears Private Ltd. | 0.240 | 0.240 | — |
| Punjab Tanneries Ltd. | 0.500 | 0.500 | — |
| Punjab Nyio Transmission Pvt. Ltd. | 0.225 | 0.056 | 0.169 |
| Punjab Chemi Plants Pvt. Ltd. | 0.260 | 0.195 | 0.065 |
| Synthetic Detergents Project | 1.300 | — | 0.750 |
| Glass Bottles Project | 1.560 | — | 1.000 |
| Cotton Seed Processing Project | 0.750 | — | 0.750 |
| | 15.465 | 4.746 | 7.534 |

### *Punjab State Small Industries Corporation*

This Corporation has been set up primarily to cater to the needs of units in the small scale sector. The Corporation procures and distributes raw materials required by small scale units.

*A Lathe head-stock being processed on a Boring Machine. A trainee is being instructed on the operation.*

### *Punjab Financial Corporation*

This Corporation provides medium and long term loans to the extent of Rs. 2 million in case of Public Limited Company or a registered Cooperative Society and Rs. 1 million in other cases. Loans are advanced against the security of land, building, plant and machinery, with a margin of 25% of net value assessed. The amount is repayable in 10 years.

The Corporation advances loans from its own funds well as an agent of the State Government. Since its inception upto 31st March, 1970, the net financial assistance sanctioned and disbursed by the Corporation was as under:

| Type of assistance | Amount sanctioned (Rs.) | Amount disbursed (Rs.) |
|---|---|---|
| Loans from Corporation's Funds | 88,485,500 | 59,900,600 |
| Loans from Agency Funds | 8,016,753 | 5,171,853 |

### *Punjab Export Corporation*

The Punjab Export Corporation assists industrial units in finding export markets for their products. Financial help in the form of advances is provided to

*Seminar on Quality Control held at Batala : Shri Harikishan Singh, Director, SISI, Ludhiana delivering the inaugural address*

execute export orders channelised through the Corporation.

During the year 1968-69, industry-wise exports of various products of industrial units through Governmental agencies were as given below:

| S.No. | Exports during 1968-69 | Rs. million |
|---|---|---|
| 1. | Cotton textiles | 1.839 |
| 2. | Cotton waste | 1.505 |
| 3. | Cycle parts | 5.131 |
| 4. | Milk products | 3.713 |
| 5. | Leather tanning | 0.323 |
| 6. | Distillery | 0.600 |
| 7. | Industrial cables | 2.663 |
| 8. | Biscuit manufacturing | 0.861 |
| 9. | Electric goods equipment | 0.588 |
| 10. | Piston & rings | 0.080 |
| 11. | Machine tools & agricultural implements | 0.300 |
| 12. | Sewing machines | 0.160 |
| 13. | Bolts & nuts | 0.013 |
| 14. | Fans | 0.250 |
| 15. | Power loom weaving | 0.575 |
| 16. | Hosiery | 8.044 |
| 17. | Sports | 2.519 |
| 18. | Bone meal | 1.245 |
| 19. | Pharmaceuticals | 0.450 |
| 20. | Handicrafts | 0.857 |

In addition to the exports routed through various Government agencies, there had been direct exports of quite sizeable quantity. The annual export of hosiery garments alone was to the tune of Rs. 60 million during the last year. The exports of cycles and cycle-parts is making steady progress and is of the order of about Rs. 20 million at present. Ludhiana is providing technical know-how to a Ceylon firm for the manufacture of bicycles. Exports of other important industrial products during the last year are as follows:

| | Rs. Million |
|---|---|
| Pipe-fittings | 4.0 |
| Switch-gears | 5.3 |
| Auto-parts | 5.0 |

In addition to the developmental agencies mentioned above which are catering to the needs of small scale industries, loans to the extent of Rs. 13.8 million approximately were also advanced by the Director of Industries under the State Aid to Industries Act. District-wise split up of loans advanced during 1969-70 is as given below:

| S.No. | Name of the Distt. | No. of parties advanced loans | Amount (Rs. million) |
|---|---|---|---|
| 1. | Sangrur | 164 | 0.469 |
| 2. | Hoshiarpur | 189 | 0.583 |
| 3. | Patiala | 221 | 0.977 |
| 4. | Bhatinda | 192 | 0.652 |
| 5. | Amritsar | 280 | 1.484 |
| 6. | Jullundur | 357 | 1.666 |
| 7. | Ropar | 177 | 0.555 |
| 8. | Gurdaspur | 136 | 0.482 |
| 9. | Ferozepur | 160 | 0.615 |
| 10. | Kapurthala | 55 | 0.192 |
| 11. | Ludhiana | 440 | 2.657 |

### Special Efforts Made By S.I.S.I., Ludhiana

(a) *Quality Components:* The Institute conducted Seminar on Quality Control of various products of different places like Batala, Amritsar, Jullundur and Moga. An effective follow up action is on its schedule to ensure that small enterprises implement the measures of quality control.

(b) *Product development: New products, new designs etc.:* With a view to encouraging new units to take up the manufacture of sophisticated items an exhibition of such new products was held.

(c) *Development of Special purpose Machine and Attachments for mechanisation of Sports Goods Industry :* Efforts are being made to help these industries to modernise and to replace manual labour which is becoming scarce. The machines and attachments that are being developed will also make the goods more acceptable in the export market.

(d) *Speeding up Industrialisation in Backward areas:* The Institute has a comprehensive programme for conducting Intensive Campaigns in industrially backward areas to promote the development of small industries. The results already achieved are encouraging.

# HARYANA

HARYANA State was carved out in 1966 by bifurcating the erstwhile Punjab State. The economy of Haryana State is predominently agricultural with about 80 per cent of its population dependent on it. The industrial development in the State is mostly confined to Faridabad, Gurgaon, Ballabgarh, Sonepat and Bahadurgarh which are satellite towns of the Union Territory of Delhi contiguous to the State. Apart from these, Jagadhri and Ambala are well-known industrial centres for the manufacture of domestic utensils and scientific instruments respectively. Districts like Mahendragarh, Hissar and Jind are industrially backward areas in the State.

There are at present 183 large and medium scale industrial units in Haryana State producing goods worth Rs. 1150 million per annum and providing employment to about 54,000 persons. The important large and medium scale industries in the State are textiles, cement, chemicals, paper, cycle and cycle parts, food processing, beverage and tobacco, leather and fur products, basic metal products, transport equipment, etc. As regards the small scale units, there are 7,139 units with an aggregate investment of about Rs. 100 million and providing employment to about 40,000 persons. The items manufactured in the small scale sector are sewing machines and parts, agricultural implements, steel wires, machine tools, scientific instruments, wooden articles & furniture, woollen textiles, hosiery goods, automobile parts and accessories, domestic utensils, cycle tyres & tubes, lime, slates, potteries, general engineering, domestic electrical appliances etc.

As a result of joint efforts made by the Department of Industries, Haryana and Small Industries Service Institute, New Delhi, a number of steps have been taken to facilitate the steady growth of industries in different parts of Haryana. The industrial policy and programmes in the State have been re-oriented to attract entrepreneurs. During the last 3 years, the number of small scale units registered with the Directorat of Industries, Haryana has gone up to 7,200 from 4,500 in 1967. Some of the important items being manufactured by these units are conduit pipes, tractor parts, sanitary wares, rubber tyres, hand tools, refrigerators, domestic appliances, steel castings, anodising, pearl barley, auto parts, elctric cables, condensors, ready-made garments, lenses, disc harrows, auto pistons, paddy-cum-wheat thrashers, slide rules, C.I. Valves, etc. These units are providing employment to nearly 20,000 persons.

## Special Incentives for Focal Points

With a view to bring about a planned, diversified and integrated growth of industries in the under-developed areas of the State, four focal points have been selected in Haryana for the development of Industries. 400 acres of land will be developed for industrial use at each of these points. These focal points are Kundli (Rohtak district) on G.T. Road, an area between Bahadurgarh and Rohtak, Palwal (Distt. Gurgaon) and the area between Faridabad and Gurgaon. In order to promote the growth of new industries in these areas, special incentives have been offered to entrepreneurs, such as sale of land 'at cost' which is payable in easy instalments, under-writing of and direct participation in the share capital of selected enterprises, exemption from duty for five years to power generating units set up by the industries and grant of suitable subsidy to power-based industries on the capital cost of generating equipment, concession in sales-tax on raw materials and finished goods for five years and supply of controlled raw materials on priority basis. In addition to the facilities given at the focal points, the State Government is giving financial

*Fabrication and Testing of Neon and Glow signs at the Extension Centre Solan (H.P.).*

assistance and other assistance to all the newly set up industries. The package of incentives which is offered to the new industrial units includes sale of land 'at cost', power at subsidised rates, rebate in taxes, octroi, subsidy for feasibility studies, etc. and also assistance in the procurement of machinery (indigenous or imported) and raw materials. Moreover, built-up sheds have been provided to industrial units in different industrial estates. At present developed plots are also being offered in industrial areas at concessional rates.

**Promotional Agencies**

The Haryana Government has established four Corporations to provide various types of assistance to the existing industries as well as to the prospective entrepreneurs.

*Haryana State Industrial Development Corporation Ltd.*, has been established with the main objective of providing finance through underwriting or capital participation in the share capital of the units and to provide guarantees on loans. The Corporation undertakes surveys and assists the units in the preparation of feasibility reports, develops industrial plots and offers the same on easy instalment basis.

*Haryana State Small Industries and Export Corporation* has been established to distribute scarce raw materials to the small scale units, to procure export orders from different agencies, distribute the same to competent small scale units and assist them in executing the same. On account of the efforts made by the Corporation and S.I.S.I., New Delhi, the export of manufactured goods from Haryana has increased from Rs. 36.2 million in 1967-68 to Rs. 64.6 million in 1968-69. Some of the items exported are woollen carpets, conduit pipes, leather shoes, pickles, de-oiled rice bran and groundnut cake, steel tubes, cycles & accessories, hand tools, glass bottles, sanitary wares, manhole covers, carbon paper, sanitary fittings, scientific apparatus, refined gaur gum, etc. The Corporation has already set up raw material depots at Jagadhari, Faridabad and Panipat. Two new raw material depots are proposed to be set up at Ambala and Kaithal.

*Haryana Financial Corporation* has been set up in the State to provide medium and long term loans to small enterprises. The Corporation provides finances by way of underwriting and participation in the share capital of the industrial units. The Corporation has sanctioned a loan of Rs. 132.3 million to 360 large and small scale units in the State. These industries have provided employment to about 30,000 persons. Special concessional terms are offered to industries started in the backward districts of Hissar and Mahendergarh and the rate of interest would be 6 percent per annum. The loan will be repayable in fifteen years with an initial grace period of five years in which no repayment would have to be made.

In order to encourage agro-based industries in the State, the State Government has set up *Haryana Agro Industries Corporation Ltd.* The main functions of this Corporation are to provide tractors and agricultural machinery on hire-purchase basis, assistance in the setting up of milk processing units, cattle and poultry feed units and assist in marketing the products of different agro-based industries.

## Role of the Small Scale Industries Development Organisation

Small Scale Industries Development Organisation of the Government of India is playing a significant role in the promotion of small scale industries in Haryana State. The Small Industries Service Institute, New Delhi and its three Extension Centres at Ambala, Jagadhari and Rewari are providing intensive technical, economic and managerial assistance to the existing and prospective entrepreneurs in Haryana. The assistance provided by the technical officers of different trades relates to the adoption of improved techiques and processes, preparation of schemes, designs and drawings for machines, dies, jigs & fixtures. In addition to tool room facilities being provided in the work shop, training is also being given to workers in various technical trades.

*24-wheeler Rib Jacquard machine manufactured by a leading Hosiery Machinery manufacturer. The machine is being exported to Accra (Ghanna).*

Evening classes are being conducted to train small industrialists in proper methods of management, production planning, inventory control, sales promotion, export marketing, book-keeping etc. Moreover, the Institute also serves as an information centre for guiding new entrepreneurs in the selection of suitable lines of production.

The Extension Centre at Ambala has a Tool Room equipped with precision machinery to cater to the needs of the scientific instruments industry and other general engineering industries in the area. The Tool Room provides common facility service to the local units and also trains the workers in small enterprises in die and tool making, workshop practice and blue print reading. The extension Centre at Jagadhri renders extension service to the mechanical engineering units in the area. The Extension Centre at Rewari caters to the needs of ferrous and non-ferrous metal based industry, leather tanning and leather footwear industry and electroplating industries at Rewari and its adjoining areas. The technical officers of S.I.S.I frequently visit different centres in Haryana to render technical assistance to the existing units. During the year 1969-70 officers of SISI, New Delhi and its Extension Centres contacted 6,500 entrepreneurs, rendered technical advice to 2,100 units and provided other assistance to 2,000 persons and visited a large number of units in the State of Haryana.

A rapid survey on the scope for the development of new industrial areas/colonies in Haryana was also taken up and a report giving the recommendations for the development of industries in different industrial estates was prepared at the instance of the Government of Haryana. Besides, a team of techno-economic experts from S.I.S.I, New Delhi visited important centres in Hissar, Jind and Karnal districts to assess the scope for the development of industries in these areas. Survey reports on the industrial development potentialities of these areas have been prepared and submitted to the Director of Industries, Haryana. It is gratifying to note that most of the recommendations made in these reports have been implemented by the Department.

With a view to train the existing entrepreneurs in the management techniques, Management Appreciation Courses were conducted at Ambala, Yamuna Nagar, Rohtak, Sonepat, Rewari, Panipat, Gurgaon and Faridabad.

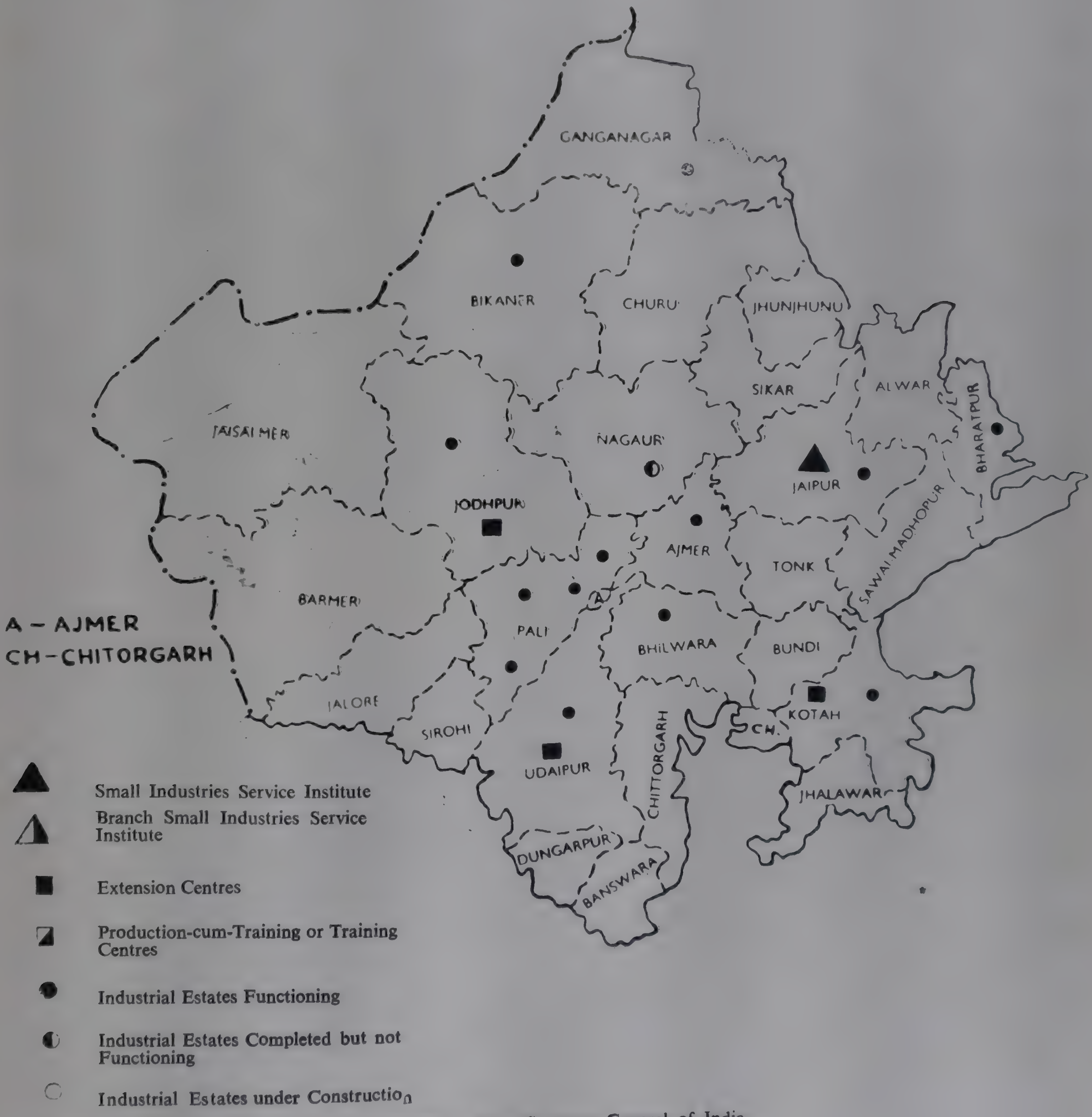
As a result of various promotional activities and the efforts made by technical officers of SISI and Extension Centres, a number of new units have been set up in Haryana for the manufacture of pearl barley, auto parts, agricultural implements, electric cables, electronic components, ceramic wares, aluminium utensils, lenses, disc harrows, automobile pistons, paddy-cum-wheat thrashers, C.I. foot valve, slide rules, needle cage bearings, etc. About 50 small scale industries have also been developed as ancillary units to manufacture a variety of parts required by large scale units such as M/s. Escorts Ltd., M/s. Taylor Instruments, M/s. Electronic Ltd., M/s. K.G. Khosla & Co., etc.

The National Small Industries Corporation, New Delhi has also gone a long way to assist the existing industrial units and prospective entrepreneurs in Haryana to set up small scale industries by offering machinery on hire-purchase basis. During the year 1969-7( NSIC has accepted the applications of 282 smal scale units in Haryana State to supply various items of machinery and equipment valued at Rs. 19.6 million on hire purchase basis.

The strategy of the Haryana Government during the Fourth Five Year Plan is to provide major infrastructural facilities so as to accelerate the development of small scale industries in the State. The Fourth Plan envisages an outlay of Rs. 38.0 million on schemes relating to small scale industries. In addition, Rs. 9.0 million have been ear-marked for the development of industrial estates in Haryana. Efforts are being made to attract private capital by providing facilities like developed land, power, water and financial assistance. In addition, Haryana has got certain locational advantages as it can cater to different states in the Northern Region. In view of this, it is felt that Haryana State offers unique opportunity to the entrepreneurs to set up new industrial units in the State.

# RAJASTHAN

RAJASTHAN, the second largest State in India was formed by the integration of 19 Princely States and 3 small principalities. These States varied in size, population, political importance and awakening, economic development, administrative efficiency, geographical and climate conditions and occupational patterns of the people. Later on Ajmer-Marwar was


GANGANAGAR
BIKANER
CHURU
JHUNJHUNU
SIKAR
ALWAR
BHARATPUR
JAISALMER
NAGAUR
JAIPUR
JODHPUR
AJMER
TONK
SAWAI MADHOPUR
A
BARMER
PALI
BHILWARA
BUNDI
A – AJMER
CH – CHITORGARH
JALORE
SIROHI
UDAIPUR
CHITTORGARH
CH.
KOTAH
JHALAWAR
DUNGARPUR
BANSWARA
▲ Small Industries Service Institute
◭ Branch Small Industries Service Institute
■ Extension Centres
◪ Production-cum-Training or Training Centres
● Industrial Estates Functioning
◐ Industrial Estates Completed but not Functioning
○ Industrial Estates under Construction

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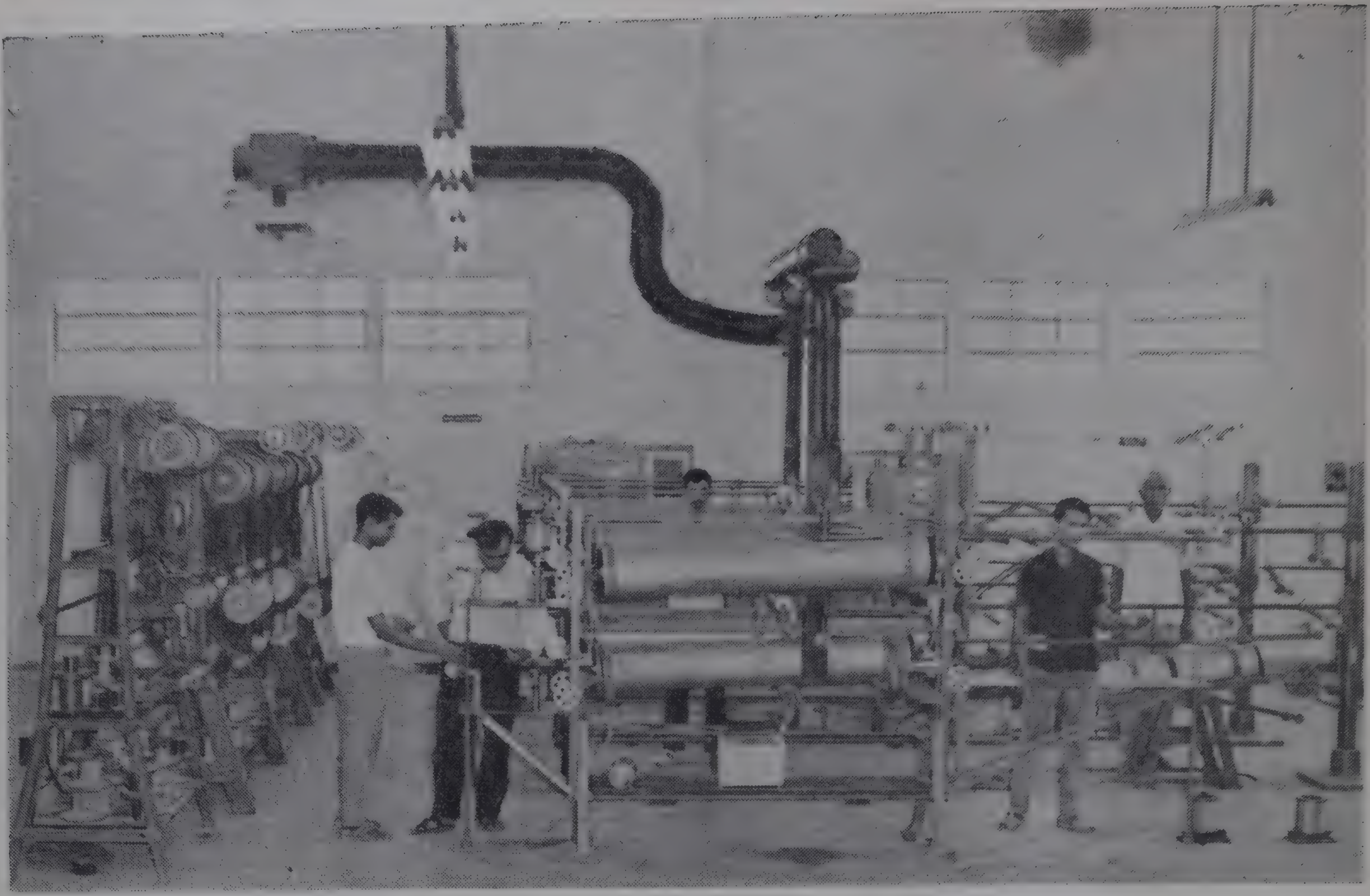

*A view of an automatic plant for super enamelled copper wire at the Industrial Estate, Jaipur* (*Rajasthan*)

also amalgamated with it and the process of integration which was started in 1948 was completed through different stages only in 1956. According to the census of 1961, the State covered 10.4% of the country's geographic area and accounted for 4.6% of the country's total population. The State is rich in natural resources—agricultural, animal, forest and mineral—which provide ample opportunities for setting up many new industries.

At the time of its formation the resources of the State were not fully explored and plans for economic development were not comprehensive. Soon after the integration, the State Government recognised the imperative need for rapid industrialisation and laid particular emphasis on the development of small scale industries. A determined effort was made to provide necessary encouragement for the industrial development of the State. Efforts were particularly directed to remove the basic handicap of shortages of power, and water supply. Simultaneously, roads were being laid to connect most of the important towns by a network of metalled roads. Besides, the Government of Rajasthan have also granted several concessions and incentives to the existing as well as prospective entrepreneurs in the form of allotment of land in industrial areas, built up factory sheds in Industrial Estates, provision of water and power at concessional rates, supply of controlled and scarce raw materials, financial assistance, tax relief, price preference in Government purchases, etc. etc.

The progress achieved would be evident from the fact that whereas only 357 factories were registered in 1956 under the Factories Act, their number rose rapidly during the subsequent years and reached a figure of 2,017[1] at the end of 1969. Similarly, the trend in the registration of small scale units with the State Directorate of Industries also indicates that more and more small scale units are coming up. Cumulative increase in the number of units registered with the

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[1] This figure is exclusive of Defence establishments.

*A view of the Industrial Area, Jhotwara, Jaipur West*

Directorate of Industries, yearwise, is given in the following table:—

**Small Scale Units registered with the Directorate of Industries, Jaipur**

| Year | No. of units (cumulative total) |
|---|---|
| 1961 | 1,950 |
| 1962 | 2,821 |
| 1963 | 3,442 |
| 1964 | 4,160 |
| 1965 | 5,280 |
| 1966 | 6,145 |
| 1967 | 6,685 |
| 1968 | 7,233 |
| 1969 | 8,145 |
| 1970 | 9,320<br>(July, 70) |

The small scale units in Rajasthan manufacture a large variety of items such as Glass & Ceramic Products, Chemicals, Wooden Articles, Electric Goods and Components, Wires, Cement Pipes, Sanitary Wares, Industrial Thermometers, etc. It is noteworthy that some of the new items manufactured in the State for the first time since 1967 are as under:

1. Fine Chemicals (Organic Laboratory)
2. Chloral Hydrate
3. Gums, Adhesives & Starch
4. P.H. Electrodes
5. P.V.C. Shoes
6. Foam Plastics
7. Acrylic Sheets
8. Vanaspati (Hydrogenated Oil)

The development of small scale industries has not been uniform in all the districts of the State as would be evident from the details given below:—

**District-wise distribution of registered small scale units in Rajasthan (March, 1969)**

| Sl. No. | Districts | No. of units |
|---|---|---|
| 1. | Ajmer | 601 |
| 2. | Alwar | 258 |
| 3. | Banswara | 287 |
| 4. | Barmer | 166 |
| 5. | Bharatpur | 387 |
| 6. | Bhilwara | 294 |
| 7. | Bikaner | 274 |
| 8. | Bundi | 18 |
| 9. | Chittorgarh | 153 |
| 10. | Churu | 334 |
| 11. | Dungarpur | 27 |
| 12. | Sriganganagar | 338 |
| 13. | Jaipur | 1,164 |
| 14. | Tonk | 23 |
| 15. | Jalore | 181 |
| 16. | Jhalawar | 250 |
| 17. | Jhunjhunu | 20 |
| 18. | Jodhpur | 648 |
| 19. | Kota | 393 |
| 20. | Nagaur | 329 |
| 21. | Pali | 479 |
| 22. | Sawai Madhopur | 113 |
| 23. | Sikar | 151 |
| 24. | Sirohi | 80 |
| 25. | Jaisalmer | 18 |
| 26. | Udaipur | 395 |

**Ancillary Enterprises**

Rajasthan has made considerable progress in the field of ancillary industries, catering to the needs of large scale enterprises. At present there are about 12 units in the small scale sector engaged in the supply of various parts and components to about 40 large scale units in different parts of the country. Efforts are being made to develop ancillary units to the large scale units at Kota. The table below gives information regarding the value of orders secured by small scale units for supply of stores to large scale enterprises during the period between 1964-65 and 1969-70.

**Orders for Supply to Large Enterprises**

| Year | Value (Rs. million) |
|---|---|
| 1964-65 | 2.494 |
| 1965-66 | 4.145 |
| 1966-67 | 5.065 |
| 1967-68 | 1.844 [2] |
| 1968-69 | 1.507 |
| 1969-70 | 2.353 |

In 1969, 376 small scale units from various parts of Rajasthan have been enlisted with the National Small Industries Corporation Ltd. (a Government of India concern) for participation in the Central Government Stores Purchase Programme. The items covered include both engineering and non-engineering goods. Important among these are Conduit Pipes, Wire Nails, Coppered & G.I. Wires, Brake Blocks, Trolleys, Bolts & Nuts, Rivets and Washers, Soap, Tents & Tarpaulins, Cotton Tape, etc.

Details regarding the value of orders received by the small scale units for the last ten years under Government Purchase Programme are as under:—

**Order under Govt. Stores Purchase Programme**

| Year | Value (Thousand Rs.) |
|---|---|
| 1960-61 | 451.9 |
| 1961-62 | 385.0 |
| 1962-63 | 5,675.4 |
| 1963-64 | 6,595.3 |
| 1964-65 | 2,710.3 |
| 1965-66 | 330.4 |
| 1966-67 | 2,050.7 |
| 1967-68 | 386.1 |
| 1968-69 | 849.0 |
| 1969-70 | 3,686.9 |

**Industrial Estates**

There are 11 Industrial Estates functioning in this State having 353 sheds and 285 plots. 287 units have been established providing employment to 2,897 persons and their production capacity is estimated at Rs. 32.42 million. The following is the statement of expenditure incurred on the construction of Industrial Estates during the first three five year plans and between 1966-67 and 1969-70.

**Expenditure on Industrial Estates in Rajasthan**

| Period | Rs. million |
|---|---|
| I & II Plan (1950-51 to 1960-61) | 4.43 |
| III Plan | 6.87 |
| 1966-67 | 0.10 |
| 1967-68 | 0.13 |
| 1968-69 | 0.16 |
| 1969-70 | 0.19 |
| Total: | 11.88 |

**Financial Assistance**

Financial assistance to small scale industries is provided by (i) State Government Under State Aid to Industries Act/Rules (ii) State Financial Corporation and (iii) Banks. Financial assistance provided by some of the institutions are given in the following tables:

**Loan under State Aid to Industries Act/Rules**

| Year | Value (Thousand Rs.) |
|---|---|
| 1960-61 | 1,541.8 |
| 1961-62 | 1,693.5 |
| 1962-63 | 697.7 |
| 1963-64 | 578.3 |
| 1964-65 | 394.5 |
| 1965-66 | 368.1 |
| 1966-67 | 157.4 |
| 1967-68 | 276.0 |
| 1968-69 | Nil |
| 1969-70 | 220.0 |

**Loans granted by Rajasthan Financial Corporation**

| Year | No. of loans sanctioned | Amount sanctioned[3] (Rs. 000's) | Amount Advanced (Rs. 000's) |
|---|---|---|---|
| 1960-61 | 23 | 343 | 158 |
| 1961-62 | 36 | 542 | 378 |
| 1962-63 | 41 | 617 | 441 |
| 1963-64 | 38 | 559 | 549 |
| 1964-65 | 44 | 702 | 628 |
| 1965-66 | 48 | 778 | 665 |
| 1966-67 | 45 | 785 | 751 |
| 1967-68 | 28 | 9,901 | 8,782 |
| 1968-69 | 24 | 6,979 | 6,216 |
| 1969-70 | 80 | 6,301 | 9.963 |

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[2] This decline in the value of orders secured is on account of the fact that some of the units have since gone in the category of medium scale industry.

[3] The difference in the sanction and actual disbursement to number of units reflects the carry-overs from the past and the cases where disbursement was possible only later.

**Loans granted by the State Bank of Bikaner and Jaipur, 1968 to 1970.**

| Type of Assistance | No. of units | | | Amount sanctioned (Rs. million) | | | Amount utilised (Rs. million) | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1968 | 1969 | 1970* | 1968 | 1969 | 1970* | 1968 | 1969 | 1970* |
| 1. Working capital | 936 | 2,129 | 3,849 | 45.362 | 56.467 | 69.387 | 18.184 | 26.630 | 33.307 |
| 2. Term loans (instalment credit and Medium term loans) | 72 | 212 | 306 | 0.555 | 6.195 | 9.117 | 0.361 | 3.518 | 7.030 |
| 3. Qualified entrepreneur scheme | Nil | 2 | 4 | — | 0.101 | 0.360 | — | Nil | 0.063 |

*Upto 26th June, 1970.

The figures for 1968 and 1969 relate to calendar years.

Source: State Bank of Bikaner and Jaipur.

**Financial Assistance provided by the State Bank of India to Small Scale Units in Rajasthan** (1968-69).

| Type of assistance | No. of units | | | Amount sanctioned (Rs. million) | | |
|---|---|---|---|---|---|---|
| | 1968 | 1969 | 1970* | 1968 | 1969 | 1970 |
| I. Working Capital | 83 | 110 | 140 | 8.352 | 10.434 | 10.535 |
| II. Term Loans (Instalment Credit) | 4 | 8 | 19 | 0.117 | 0.239 | 0.757 |

*Figures as on 31-7-1970.

In the case of limits sanctioned, upto 53% of the limits were availed of, while in case of term loans, there was not much difference between sanctions and its utilization by the small scale units.

**Hire Purchase**

The facility of buying machinery on Hire-Purchase basis is provided by NSIC (a Government of India undertaking) The progress of the Hire Purchase Scheme in Rajasthan is given in the Table below:—

**Progress of Hire Purchase of Machinery in Rajasthan**

| Year | No. of applications received | Value of machinery | Applications accepted | (Value in Rs. million) Value | Orders placed value | Machinery actually delivered value |
|---|---|---|---|---|---|---|
| 1956-62 | 116 | 6.18 | 90 | 4.58 | 2.37 | 1.58 |
| 1962-63 | 15 | 1.30 | 8 | 0.16 | 0.24 | 0.36 |
| 1963-64 | 3 | 0.23 | 2 | 0.02 | 0.02 | 0.95 |
| 1964-65 | 14 | 0.56 | 7 | 0.41 | 0.28 | 0.14 |
| 1965-66 | 214 | 15.49 | 122 | 5.56 | 0.26 | 0.63 |
| 1966-67 | 49 | 3.58 | 33 | 1.83 | 0.88 | 0.39 |
| 1967-68 | 15 | 1.66 | 21 | 2.36 | 0.74 | 0.83 |
| 1968-69 | 30 | 1.86 | 18 | 1.62 | 0.54 | 2.10 |
| 1969-70 | 29 | 2.81 | 23 | 1.85 | 2.00 | 0.44 |

Source: NSIC Ltd., New Delhi.

### Role of SISI in the Development of Small Scale Industries in Rajasthan

Since its inception in 1958, the SISI has been playing a vital role in the promotion of small scale industries in Rajasthan. At that time there were only a few small scale industries in the State and as such the SISI had to put in considerable efforts for promoting the growth of small scale industries. The SISI Jaipur and its Extension Centres, at Jodhpur, Udaipur & Kota are engaged in assisting small scale industries in the State. The main services provided by this Institute and its Extension Centres, include technical, management consultancy and economic information besides training in various managerial and technical trades. The Institute is staffed with well-qualified technical officers to give advice on various types of small enterprises grouped under mechanical engineering, chemical, ceramics, leather and footwear industries in the State. Besides, the Economic Investigation and Industrial Management Divisions of the Institute have conducted several studies and training courses respectively for the benefit of Small Industrialists in the State.

### Technical Assistance

The Technical Assistance rendered by the Institute and its Extension Centres involve a careful study of the problems posed by the small scale industries and providing them with appropriate solution to overcome the same. The Officers who have specialized in various technical trades are stationed at the Institute and the Extension Centres to render assistance to the enterprises. The assistance rendered during the last 10 years can be seen from the following table:

**Technical Assistance and Guidance rendered to Small Scale Units in Rajasthan**

| Year | No. of visits paid to render on-the-spot advice | Parties given purely technical assistance | Parties given information to start new industries | Parties given other assistance |
|---|---|---|---|---|
| 1960-61 | 1,274 | 2,578 | 2,280 | 1,182 |
| 1961-62 | 1,058 | 1,793 | 1,152 | 686 |
| 1962-63 | 663 | 1,042 | 661 | 727 |
| 1963-64 | 1,734 | 2,084 | 967 | 2,271 |
| 1964-65 | 2,955 | 3,194 | 1,928 | 3,890 |
| 1965-66 | 2,893 | 4,098 | 1,756 | 4,628 |
| 1966-67 | 1,958 | 3,894 | 1,000 | 2,385 |
| 1967-68 | 3,947 | 3,578 | 1,156 | 5,660 |
| 1968-69 | 1,962 | 3,743 | 637 | 3,749 |
| 1969-70 | 2,605 | 4,587 | 907 | 4,188 |

A few significant instances of technical assistance rendered by the officers of this Institute and its Extension Centres to small industrialists' the State Government and others are briefly summarised below:—

1. At the instance of the Rajasthan State Industrial and Mineral Development Corporation (a Government of Rajasthan Undertaking) the following studies were undertaken and reports thereon were submitted to them:
   - (a) Project Report on a "Functional Industrial Estate for Ceramic Industries" based on a detailed study of the Project.
   - (b) Preparation of suitable schemes to be taken up in the Functional Industrial Estate for Electronic Industries. The schemes were prepared in collaboration with the Central Electronics Engineering Research Institute, Pilani.
   - (c) A detailed study of the working of M/s. Dholpur Glass Works was made and a comprehensive report about the factory was submitted.
2. Preparation of a report on "Prospective Small Scale Industries based on Non-metalliferous Mineral Resources of Southern Rajasthan." for the benefit of entrepreneurs in the State.
3. A Guide to Timber-based Industries was prepared for the benefit of the entrepreneurs in the State, particularly for young engineers in choosing a suitable line of production.
4. A suitable printing roll was made at the Institute and supplied to the small industrialist manufacturing Cardiogram Papers. Since such printing rolls are normally imported this is an instance of import substitution.
5. Another instance of import substitution was the designing and fabrication of jigs for the manufacture of cutters used in weed cutting machines. This work was taken up for the Irrigation Department of the Chambal Project of the Government of Rajasthan.
6. Technical guidance and assistance were given to several entrepreneurs, small industrialists in the manufacture of plaster of paris, soaps and detergents, non-pressure asbestos cement pipes, sealing wax, rubber stamp ink, ammonium nitrate, dehydrated onions and onion powder, DVP shoes.

### Management Consultancy

Management consultancy service and managerial training are being provided by the Institute. Management consultancy is provided to the small industrialists by regular visits to their factories, identifying the managerial problems and offering them suitable solutions after studying their problems in detail.

Often small industrialists visit this Institute with several types of problems which they face in managing their factory. As a result of the consultancy service rendered by the officers in the Institute, in several cases, there have been increase in the productivity and reduction in the cost and general improvement in the efficiency of the working of the industrial units.

A few typical instances of management counselling are briefly summarised below:—

(a) Advice on launching a suitable publicity campaign for the popularisation of washing soaps (in the face of severe competition), on the preparation of publicity material, nature of incentives to be offered etc.

(b) Assistance to a small industrialist in drawing up a suitable scheme of cost discounts to be offered to various clients in order to reduce the time-lag between the sale of goods and realisation of sale proceeds.

(c) Advice on cost reduction by suggesting suitable and effective substitute material in the place of costly and scarce material used in the manufacture of metallic water bottles.

(d) Advice to a manufacturer of cycle parts on proper methods of book-keeping and of preparation of Manufacturing & Trading Account, Profit & Loss Account and Balance Sheet.

(e) Advice to a manufacturer of pressure stoves to tackle labour problems by suggesting suitable scheme of incentives including a bonus on regular attendance to check absenteeism. In all the above instances the parties have been greatly benefited by the implementation of the suggestions offered.

### Management & Technical Training Services

Management & Technical Training Services were designed for the benefit of small industrialists and their workers with a view to increase the efficiency of management and productivity of the workers in small enterprises. The following table gives number of persons trained in the various management and technical training courses during the last 9 years:—

**No. of Persons trained in Various Courses**

| Year | No. of Persons Trained | |
|---|---|---|
| | Industrial Management Courses | Technical Courses |
| 1961-62 | 57 | 5 |
| 1962-63 | 39 | 46 |
| 1963-64 | 78 | 65 |
| 1964-65 | 83 | 73 |
| 1965-66 | 93 | 139 |
| 1966-67 | 74 | 132 |
| 1967-68 | 87 | 109 |
| 1968-69 | 66 | 74 |
| 1969-70 | 49 | 45 |

In October, 1969, a four-week training course was conducted in collaboration with the Institution of Engineers (India) Jaipur centre, Rajasthan, for the benefit of young engineers who wished to set up small scale industries in the State. Twenty engineers completed the training course.

A full time stipendiary training course of four-months' duration is now being organized by the Institute at the instance of the Union Ministry of Education and Youth Services, for the benefit of young engineering graduates and diploma-holders. During the training period, the selected engineering graduates and diploma holders will be paid a monthly stipend of Rs. 250/- and Rs. 150/- respectively. The training programme is designed to equip the engineers to select, organise, and manage their small scale enterprises successfully. After completion of their training, the engineers are expected to set up their small scale units which may often greater Employment opportunities and add to the industrial output.

### Economic Investigation and Information Services

Economic Investigation and Economic Information Service form an integral part of the industrial extension service provided by the Institute. In a fast developing economy, provision of accurate and reliable information regarding the demand prospects, the scope of development of various industries, assessment of developmental potentialities of an area after examining the resources and other relevant factors and dissemination of such information to the entrepreneurs who are interested in setting up of industries, are of vital importance. The Institute collects information on all these aspects by conducting industry surveys, ad hoc surveys and area surveys from time to time. Data so collected are properly collected to determine the scope for further development of an area as also for new industries. Besides, the Institute also collects up-to-date information regarding progress of various industries to facilitate formulation of suitable policies for the development of small industries.

**Area Surveys**

With a view to provide detailed information regarding demand and resources characteristics of the areas and throw up suggestions regarding prospective industries, the Institute at Jaipur has so far conducted 'Industrial Potential Surveys' of 15 districts. These surveys were generally conducted at the request of the State Government.

A feasibility study for setting up of an industrial Estate at Beawar was also completed. In addition to this, the Sub-division of Hanumangarh in the district of Sriganganagar was surveyed with a view to locating an industrial growth centre. A techno-economic survey to review the working of the Industrial Estate, Makhupura (Ajmer) was conducted and various suggestions have been made in consultation with the Directorate of Industries for improvement and successful functioning of the Industrial Estate.

**Industry Prospect Studies**

On various items, product studies are undertaken to find out prospects of further development and the scope for new small enterprises. Besides collecting information on various items required for economic analysis, technical feasibility of manufacturing such items on small scale basis are also studied in detail. So far over 250 studies have been completed.

**Intensive Campaign**

With a view to motivating entrepreneurs and creating a favourable climate for the development of small scale industries in industrially backward areas of the State 'intensive development campaigns' are launched in such areas. All the informations and facilities required by the entrepreneurs are made available to them by the appropriate agencies connected with the development of small scale industries such as the SISI, the State Directorate of Industries, the National Small Industries Corporation Ltd. etc. This Institute has so far, conducted such campaigns in eight districts, namely, Pali, Bhilwara, Nagaur, Banswara, Bharatpur, Dholpur, Bikaner and Kota.

**Rural Industries Projects**

The Rural Industries Projects in the Districts of Churu and Nagaur were initiated in the State in 1962-63. By March 1970, State Government and the Financial Institutions had assisted over a thousand small establishments. Improvement in the working of the Projects with a view to facilitating the growth of industries in these underdeveloped areas of the State is being considered by the State and Central Governments.

**Export Marketing**

The Institute has been helping the small scale units in finding export markets for their products, and about 20 small scale producers are now exporting a variety of products, such as gun metal and brass sanitary fittings like bib-cocks, ball valves, etc., flushing cisterns, buckets, emery mill stoves, mica powder, hair oils and tooth powder, artificial eyes, aluminium conductors, PVC cables, stores, cycle-parts like pedals, BBC ups, steel and brass nuts, automobile radiators, diamond tools, small tools, gems and jewellery to European, African, Middle Eastern, West Asian countries and other foreign markets in Afghanistan, Ceylon, Nepal, U.K. and Japan. In order to highlight the advantages of export-trade as also to provide working knowledge of terms, conditions and procedures of Export Trade, the Institute has so far conducted nine training courses in Export Marketing, at Jaipur, Jodhpur, Bikaner, Ajmer, Udaipur, and Bharatpur, for the benefit of the small industrialists in the State. Apart from providing advice and guidance to the entrepreneurs visiting or writing to the Institute, a monthly Export Newsletter giving details of export possibilities is regularly circulated amongst the small scale units in the State.

**Exhibitions**

The Institute encourages and guides the small scale units to participate in various trade fairs, exhibitions, etc. held within the country and abroad. The Institute assisted the small scale units of Rajasthan in participating in the following exhibitions in India and abroad.

| | Exhibition | Period | No. of S.S. units from Rajasthan participating in the Exhibition |
|---|---|---|---|
| 1. | UNCTAD Exhibition held at Delhi. | 3 months from 15-1-68 | 11 |
| 2. | ECA Small Scale Industries Exhibition at Addis Ababa, Etheopia. | Feb. 3, 1969 to Feb. 14, 1969 | 7 |
| 3. | Tenth Somalia International Fair, Mogadiscio, Somalia. | Sept. 28, 1969 to Oct. 12, 1969. | 2 |

# TAMIL NADU

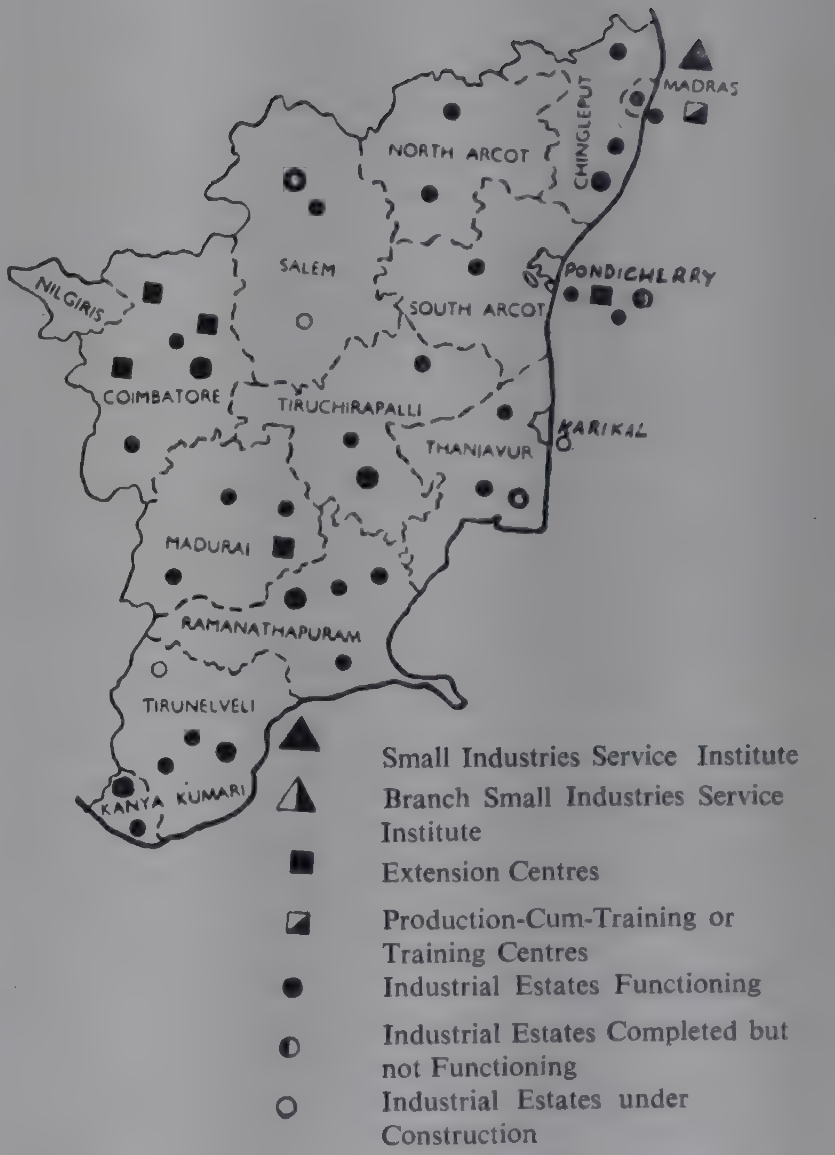
THE programme of planned development of small scale industries in Tamil Nadu has been an integral part of the process of rapid industrialisation of the State. With a view to accelerating this process, the Government have evolved a wide array of measures and among these, the systematic efforts taken by them for promoting the growth of small scale industries have been the most significant. Since certain problems like shortage of essential raw materials, financial difficulties and want of technical and managerial skills impede the growth of small scale industries, the Government (at the Central and State levels) have formulated a comprehensive programme for the development of the small scale sector of industry in Tamil Nadu, keeping in view the overall national objectives and the aims of development policies.

### System of Registering Small Scale Units

In order to collect essential statistical information and to provide various types of general assistance, the system of registering small scale units with the State Directorate of Industries and Commerce was introduced in the year 1961. The progress made in this direction and the active role played by the State Directorate of Industries and Commerce in promoting the growth of small scale units in the State can be assessed from the following figures:

TABLE I

| Year | Cumulative No. of Regd. Small Scale units |
|---|---|
| 1961 | 3,000 |
| 1965 | 8,819 |
| 1969 | 18,017 |
| 1970 (30-6-1970) | 20,886 |


MADRAS
CHINGLEPUT
NORTH ARCOT
SALEM
NILGIRIS
PONDICHERRY
SOUTH ARCOT
COIMBATORE
TIRUCHIRAPALLI
KARIKAL
THANJAVUR
MADURAI
RAMANATHAPURAM
TIRUNELVELI
KANYA KUMARI
▲ Small Industries Service Institute
△ Branch Small Industries Service Institute
■ Extension Centres
◪ Production-Cum-Training or Training Centres
● Industrial Estates Functioning
◐ Industrial Estates Completed but not Functioning
○ Industrial Estates under Construction

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The territorial waters of India extend into the Sea to a distance of twelve nautical miles measured from the appropriate base line.

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*A view of the Industrial Estate at Aryamangalam, Tamil Nadu.*

The number of registered small scale units have considerably increased in recent years and the statistical wing of the Department of Industries and Commerce in Tamil Nadu pays considerable attention to this important work. Table II gives the district-wise break-up of the small scale units registered as on 30-6-1970 and the comparative position three years earlier, i.e. as on 30-6-1967.

TABLE II

**Number of small scale units registered**

| | | As on 30-6-67 | As on 30-6-70 |
|---|---|---|---|
| 1. | Chingleput | 1,007 | 1,777 |
| 2. | Coimbatore | 1,061 | 1,637 |
| 3. | Dharmapuri | 14 | 96 |
| 4. | Kanyakumari | 162 | 191 |
| 5. | Madras | 2,961 | 5,080 |
| 6. | Madurai | 868 | 1,177 |
| 7. | Nilgiris | 17 | 49 |
| 8. | North Arcot | 509 | 774 |
| 9. | Ramanathapuram | 879 | 1,253 |
| 10. | Salem | 1,489 | 2,257 |
| 11. | South Arcot | 346 | 607 |
| 12. | Thanjavur | 516 | 1,299 |
| 13. | Tirunelveli | 803 | 1,042 |
| 14. | Tiruchirapalli | 602 | 828 |
| 15. | Sivaganga | 19 | —* |
| | Total | 11243 | 18017 |
| | | | 2869** |
| | | | 20886 |

* Merged with Ramanathapuram District.

** Units subsequently registered but for which the district-wise break up is not available as yet.

**Types of Industries**

A large variety of items are being manufactured by the small scale units in Tamil Nadu. The important amongst them include general engineering goods, sophisticated items like sensitive laboratory and testing equipment, paints & varnishes, chemicals and fertilisers, agricultrual implements, plastic goods, glass & ceramics and food products. In Tamil Nadu certain industries such as electric motors, tanned leather, safety matches and fireworks have made notable progress.

The types of industries and number of registered units in each industry are furnished below:

TABLE III

**Comparative position of industry-wise break-up of the registered small scale units in Tamil Nadu**

| | | As on 30-6-67 | As on 30-6-70 |
|---|---|---|---|
| 1. | Iron and Steel | 2,229 | 3,924 |
| 2. | Scientific and Hospital Requisites | 118 | 1468 |
| 3. | Textiles (cords, tapes, wicks and knitted & braided products) | 1,241 | 1,825 |
| 4. | Automobiles | 350 | 707 |
| 5. | Cement & Gypsum products | 440 | 568 |
| 6. | Electric Motors | 83 | 128 |
| 7. | Chemicals & Fertilizers | 305 | 678 |
| 8. | Boilers & Steam generation equipment | 291 | 400 |
| 9. | Machine Tools | 125 | 138 |
| 10. | Non-ferrous Metals & Alloys | 853 | 1095 |
| 11. | Paper & Paper products | 234 | 386 |

*Deputy Minister ID & IT (sitting in the centre) listening to young Engineering graduates who are undergoing an Entrepreneurship Training Course in the SISI Madras.*

| | | As on 30-6-67 | As on 30-6-70 |
|---|---|---|---|
| 12. | Drugs & Pharmaceuticals | 106 | 159 |
| 13. | Rubber goods | 92 | 204 |
| 14. | Leather goods | 249 | 404 |
| 15. | Vegetable Oils | 126 | 221 |
| 16. | Batteries (storage cell) | 12 | 27 |
| 17. | Bicycles & Parts | 68 | 97 |
| 18. | Agricultural Implements | 186 | 493 |
| 19. | Prime Movers, Turbines, etc. | 25 | 48 |
| 20. | Power-Driven Pumps | 41 | 129 |
| 21. | Radios & Amplifiers | 127 | 182 |
| 22. | Glass & Ceramics | 297 | 405 |
| 23. | Soap | 116 | 259 |
| 24. | Cosmetics & Toilet | 131 | 578 |
| 25. | Food products | 673 | 1,419 |
| 26. | Matches & Fire works | 628 | 239 |
| 27. | Wooden Articles & Furniture | 238 | 615 |
| 28. | Electrical Accessories & Equipment | 229 | 351 |
| 29. | Plastic & Polythene | 262 | 510 |
| 30. | Paints & varnishes | 63 | 183 |
| 31. | Fountain Pen & Writing Materials | 86 | 113 |
| 32. | Cine Projectors & Photo equipment | 54 | 77 |
| 33. | Printing | 505 | 939 |
| 34. | Optical goods & Lenses | 45 | 61 |
| 35. | Beverages | 256 | 367 |
| 36. | Tobacco—Tobacco products | 56 | 82 |
| 37. | Water Meters, Steam Meters, Electric Meters | 15 | 21 |
| 38. | Gold & Silver articles | 34 | 53 |
| 39. | Stationery Articles | 15 | 28 |
| 40. | Others | 239 | 1,395 |
| | Total | 11,243 | 20,886 |

It is seen from the above figures that iron and steel industries, textiles, non-ferrous metals manufacturing industries, food products and printing industries have shown a steep increase in registration in recent years.

**Total Capital Investment** (on Land, Buildings & Machinery)

The available data indicate that the total capital invested by the 20,886 registered units in the State as on 30-6-70 is estimated at Rs. 1,130 million (Rs. 639 million as at the end of 1967). On an average, a unit invests 45% of its total investment on machinery only. It may be observed that large investments have been made in iron and steel-based industries and textiles. Similarly, considerable amounts have also been

*View of an Open House Discussion organised by the Central Footwear Training Centre, Madras.*

invested in non-ferrous metal manufacturing industries, food products, and printing industries.

District-wise, the highest share in the investment in plant and machinery is in Madras (27.05%) followed by Chingleput (24.25%) and the lowest in the industrially backward districts of Nilgiris, Kanyakumari and South Arcot.

**Employment**

It is estimated that, on an average, a small scale industrial unit employs 16 workers. It may be said roughly that 30% of the total number of industries in Tamil Nadu are non-power industries like safety matches, leather industries, utensils, agricultural implements, bricks, bakery and confectionery units.

A non-power unit is considered to be covered under the Factories Act of 1948 if the total number of workers employed is 20 or more. Since the average number of workers employed under small scale industries in Tamil Nadu is 16 it may be concluded that the majority of industries come under the unorganised sector outside the purview of Factory's Act, 1948.

**Capital-Labour Ratio**

The above figures indicate that the capital labour ratio (i.e. the amount of capital required per worker) is, on an average, about Rs. 3,450.

**Employment Opportunities**

In providing employment opportunities, Ramanathapuram would take the highest share of 23.44% followed closely by Madras with 20.67%. Two other districts, which have offered good scope for employment, are Chingleput and Coimbatore in that order.

Some of the industrially backward districts namely Nilgiris, Kanyakumari and South Arcot have a share of less than 1% in providing employment.

The following industries have the highest share of workers employed:—

*Front view of SISI Madras, Tamil Nadu.*

| Industries | Labour Requirement Per unit |
|---|---|
| 1. Safety matches and fire works | 51 |
| 2. Leather | 33 |
| 3. Glass and Ceramics | 32 |

Table IV would broadly indicate the progress of small scale industries in Tamil Nadu.

TABLE IV

| | 1953 | 1968 | 1969 |
|---|---|---|---|
| 1. Total no. of registered small scale units in Tamil Nadu | 3000 | 13630 | 18017 |
| 2. Total no. of workers employed in small scale industries | 32270 | 162000 | N.A. |
| 3. Total production (Rs. million—estimated) | 323.25 | 2070.00 | N.A. |

**Production**

These production figures show that production in the small scale sector in Tamil Nadu has increased by more than 600% in 1968 compared to 1958 or an average annual increase of 60% during the decade from 1958 to 1968.

**Ancillary Units**

Substantial progress has been achieved in the development of ancillary industries in Tamil Nadu and this has been made possible because of the close and continuous liaison maintained by the officers of the institute with the large scale industrial units on the one hand and the small enterprises on the other. These small scale units engaged in the manufacture of various parts and components have so far supplied goods worth Rs. 257.1 million to large scale enterprises as well as to Government Departments like Railways and Defence. The annual value of orders secured by these units is indicated in Table V.

TABLE V

**Orders secured by ancillary units**

| Year | Value in Million (Rs.) |
|---|---|
| 1958-59 | 1.5 |
| 1959-60 | 1.9 |
| 1960-61 | 3.3 |
| 1961-62 | 10.8 |
| 1962-63 | 11.8 |
| 1963-64 | 13.5 |
| 1964-65 | 17.0 |
| 1965-66 | 18.7 |
| 1966-67 | 21.3 |
| 1967-68 | 35.1 |
| 1968-69 | 53.5 |
| 1969-70 | 68.7 |
| Total | 257.1 |

*Final Inspection of Die Block at the Extension Centre, Pondicherry attached to the SISI Madras.*

Some important items supplied by the ancillary units in Tamil Nadu are precision components, fabricated components, packaging materials, steel forgings, pressure die castings, rubber components, jigs, fixtures, dies, tools and the like.

The value of goods supplied by small enterprises under the Central Government Stores Purchase Programme between 1958-59 and 1969-70 is indicated Table VI.

TABLE VI

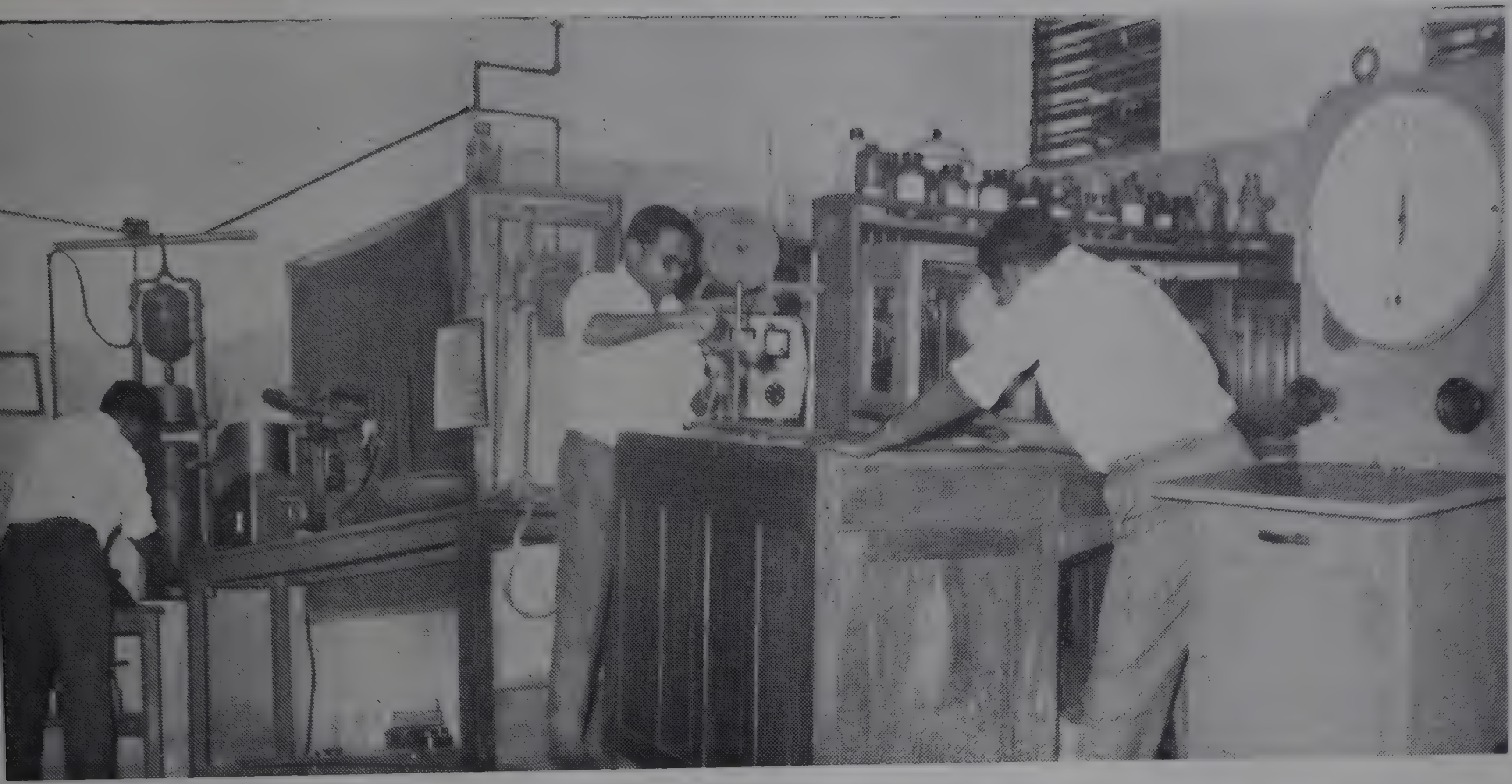
| Year | Value of orders in million Rs. |
|---|---|
| 1958-59 | 4.6 |
| 1959-60 | 4.1 |
| 1960-61 | 7.2 |
| 1961-62 | 9.0 |
| 1962-63 | 12.5 |
| 1963-64 | 13.2 |
| 1964-65 | 14.8 |
| 1965-66 | 13.1 |
| 1966-67 | 8.9 |
| 1967-68 | 11.7 |
| 1968-69 | 22.1 |
| 1969-70 | 18.3 |
| Total | 139.5 |

### Tamil Nadu Sub-Contract Exchange

A two-way Sub-Contract Exchange was established at the Small Industries Service Institute, Madras, in May, 1970 with the assistance of an expert deputed by the United Nations Industries Development Organisation. This is a convenient system for keeping detailed information on capacity of all kinds, in material and bought out components in respect of a large number of engineering firms. Any party who wants to get different types of ancillary items for his factory may easily get the required information from this Exchange.

### Industrial Estates Programme

For the purpose of creating the climate congenial for the growth of small scale industries, the programme of industrial estates was initiated during the Second Five Year Plan (1956-61) in Tamil Nadu. The principal objective of this programme is to provide factory accommodation on subsidised rent at suitable places with facilities of electricity, water, transport, banks, post office, canteen, watch and ward etc. which would help to stimulate the growth of small industries. In short, these estates have introduced significant changes in the locational and



*A view of the Foundry Laboratory attached to the Industrial Extension Centre, Coimbatore. Analysis and test in progress.*

technological patterns of industries and they may be classified under four broad categories; these are:

(i) Conventional Industrial Estates
(ii) Functional Industrial Estates
(iii) Ancillary Industrial Estates
(iv) Co-operative (Private) Industrial Estates

(i) In the Conventional Industrial Estates most of the factory sheds have been allotted for a wide range of manufacturing concerns producing mainly light engineering goods.

(ii) The Functional Industrial Estates are introduced to provide factory sheds for particular types of industry. Some of the special types of industries such as leather, ceramics, drugs and pharmaceuticals, food and fruit-based industries and electronics are proposed to be organised and developed by means of the Functional Industrial Estates located at the most suitable place for each type of industry.

(iii) The Ancillary Industrial Estates are meant for catering to the needs of a large scale industry by supplying a number of components and parts required by the large scale concern.

(iv) The Co-operative Industrial Estates are owned by the Co-operative Societies formed by the industrialists who take up sheds in them. These estates are registered under the State Co-operative Societies Act. Details relating to the different types of industrial estates in Tamil Nadu are furnished in table VII.

TABLE VII

**Details of Industrial Estates as on 30-6-1970**

| *Name of the estate* | *Number of (units)* | |
|---|---|---|
| | *Sanctioned* | *Constructed* |
| **I. Conventional Industrial Estates** | | |
| *(Existing)* | | |
| 1. Guindy | 129 | 129 |
| 2. Virudhanagar | 15 | 15 |
| 3. Madurai | 36 | 36 |
| 4. Pettai | 12 | 12 |
| 5. Erode | 11 | 11 |
| 6. Katpadi | 16 | 16 |
| 7. Thanjavur | 6 | 6 |
| 8. Tiruchi | 29 | 29 |
| 9. Marthandam | 6 | 6 |
| 10. Ambattur | 140 | 117 |
| 11. Theni | 12 | 7 |
| 12. Dindigul | 25 | 18 |
| 13. Karaikudi | 18 | 12 |
| 14. Kovilpatti | 18 | 11 |
| 15. Krishnagiri | 18 | 12 |
| 16. Pudukottai | 18 | 12 |
| 17. Arkonam | 18 | 6 |
| 18. Sivaganga | 6 | 6 |
| 19. Nagercoil | 6 | 6 |
| 20. Kumbakonam | 6 | 4 |
| 21. Kanchipuram | 4 | 4 |
| 22. Karur | 4 | 4 |
| 23. Nagapattinam | 6 | 4 |
| | 559 | 483 |

*(Sanctioned and under implementation)*

| | | |
|---|---|---|
| 1. Hosur | 6 | — |
| 2. Cuddalore | 6 | — |
| 3. Salem | 8 | — |
| 4. Namakkal | 6 | — |

**II. Functional Industrial Estates**

*(Existing)*

| | | |
|---|---|---|
| 1. Electrical Industry Kakkalur | 10 | 10 |
| 2. Leather Industry Madhavaram | 24 | 16 |
| 3. Ceramic Industry Vriddachalam | 21 | 8 |
| 4. Mettur Chemicals Industrial Estate, Mettur | 4 | 4 |
| | 59 | 38 |

*(Sanctioned and under implementation)*

| | | |
|---|---|---|
| 1. Food and Food Based Industry, Batlagundu | 20 | — |
| 2. Instruments Industry, Adyar | 15 | — |
| 3. Drugs & Pharmaceuticals, Ambattur | 25 | — |
| 4. Electronics Industry, Madras | 30 | — |

**III. Ancillary Industrial Estates**

*(Existing)*

| | | |
|---|---|---|
| 1. Vadalur | 4 | 4 |
| 2. Tiruverumbur | 10 | 10 |
| | 14 | 14 |

**IV. Co-operative Industrial Estates**

| | | |
|---|---|---|
| 1. Tuticorin Co-operative Industrial Estate, Tuticorin | 20 | 20 |
| 2. Sakthi Co-operative Industrial Estate, Pollachi | 40 | 15 |
| 3. Sivakasi Co-op. Industrial Estate | 20 | 20 |
| 4. Vyasarpadi Industrial Co-operative, Vyasarpadi | 100 | 43 |
| 5. Salem Co-op. Industrial Estate, Salem (Under construction). | 12 | — |
| | 192 | 98 |

**IV. Private Industrial Estates**

| | | |
|---|---|---|
| 1. K.R. Sundaram Industrial Estate Pvt. Limited, Tiruvottiyur, Madras-19 | 20 | 20 |
| 2. Coimbatore Pvt. Industrial Estate, Coimbatore | 60 | 23 |
| Total | 80 | 43 |

**VI. Details of Developed Plots**

| Name of the Developed Plots Estate | Total area acquired (acres) | Total saleable area (acres) |
|---|---|---|
| *(Existing)* | | |
| 1. Ambattur phase I | 453 | 359 |
| 2. Ambattur phase II | 530 | 388 |
| 3. Madurai | 527 | 188 |
| 4. Trichy | 476 | 92 |
| 5. Mettur | 201 | 175 |
| *(Under implementation)* | | |
| 6. Ranipet | 727 | 218 |
| 7. Guindy | 159 | 59 |
| 8. Tiruvallur | 283 acres of land under development. | |

**Financial Assistance**

Financial assistance is one of the most essential pre-requisites for the sustained growth of small scale industries. At present, financial assistance to small enterprises in Tamil Nadu is provided by (i) State Government under State Aid to Industries Act/Rules; (ii) Madras Industrial Investment Corporation; (iii) State Bank of India and its subsidiaries; and (iv) the major nationalised banks. Details of financial assistance rendered by some of these Institutions are given below:

(i) *Loans under State Aid to Industries Act*

A Committee constituted under the Act selects the small scale units which deserve financial assistance. The Director of the Small Industries Service Institute, Madras, is also a member of this Committee. Under the above Act, the Department of Industries and Commerce, Madras, has disbursed Rs. 3.04 million as loans to 1476 small scale industrial units during the year 1969-70.

(ii) *Loans granted by State Bank of India (Medium Term loans & Instalment credit)*

| Year | No. of units | Total value (Rs. million) |
|---|---|---|
| 1968 | 317 | 22.36 |
| 1969 | 459 | 36.97 |
| 1970 (upto June) | 614 | 45.91 |

(iii) *Loans for Working Capital*

| Year | No. of units | Total value (Rs. million) |
|---|---|---|
| 1968 | 1494 | 125.76 |
| 1969 | 1856 | 197.09 |
| 1970 (upto June) | 2430 | 248.78 |

Recently, the Tamil Nadu Government has set up the Tamil Nadu Small Industries Development Corporation with the object of providing assistance to small industries in obtaining scarce raw materials and rendering technical assistance.

**Hire Purchase**

The National Small Industries Corporation supplies machinery (imported as well as indigenous) on hire purchase basis to the existing as well as new enterprises. The objective of the scheme is to equip the small scale units with modern machinery and this facilitates their speedy growth. Generally, 20% of the value of the machinery has to be paid as earnest money to the Corporation, immediately after their acceptance of the application. Repayment of the balance value of the machinery is spread over 5 to 7 years in easy instalments with concessional rates of interest.

Details regarding the supply of machinery in Tamil Nadu are given in Table VIII.

**Small Industries Service Institute, Madras at Work**

In the field of Technical Assistance, Management Consultancy and Economic Information, the services rendered by the Small Industries Service Institute at Madras with its network of Extension Centres at Madurai, Coimbatore and Pondicherry, the Leather Finishing Centre at Erode and the Central Footwear Training Centre at Madras have been largely responsible for the successful growth of small scale industries in Tamil Nadu. At present, there are technical officers in the Institute, for Mechanical Engineering, Metal Finishing, Metallurgical, Chemical, Ceramics and Glass and Leather Footwear besides specialists for Economic Investigation and Industrial Management and Training. The officers, apart from providing guidelines to entrepreneurs in establishing new industries, render different types of technical assistance to small enterprises in solving their day-to-day problems.

The significant role played by the officers of the Small Industries Service Institute as "Technical Consultants" to small enterprises in Tamil Nadu is reflected in Table IX showing the assistance rendered during the period April 1969 to April 1970.

TABLE VIII

**Progress of Hire Purchase of Machinery in Tamil Nadu**

| Year (1) | No. of applications received (2) | Value (Rs. Million) (3) | No. of applications accepted (4) | Value (Rs. Million) (5) | Orders Placed (Rs. Million) (6) | Machinery deli- (Rs. Million) (7) |
|---|---|---|---|---|---|---|
| 1964-65 | 109 | 7.07 | 63 | 2.98 | 2.08 | 6.46 |
| 1965-66 | 124 | 12.86 | 88 | 4.25 | 2.42 | 2.58 |
| 1966-67 | 206 | 12.66 | 62 | 2.60 | 1.56 | 3.79 |
| 1967-68 | 213 | 10.16 | 187 | 9.05 | 4.00 | 5.66 |
| 1968-69 | 763 | 46.08 | 727 | 27.02 | 6.17 | 5.94 |
| 1969-70 | 830 | 27.66 | 521 | 17.75 | 6.94 | 4.82 |

TABLE IX

| Nature of assistance | At factory premises | At Instt/E. C. premises | Through correspondence | Total | Cumulative total |
|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) |
| 1. Entrepreneurs contacted | 1216 | 650 | 418 | 2284 | 22,226 |
| 2. Entrepreneurs given purely technical asssistance | 542 | 260 | 56 | 858 | 7,622 |
| 3. Entrepreneurs given information to start new industries | 5 | 104 | 23 | 132 | 2,884 |
| 4. Entrepreneurs given management advice | 6 | 5 | — | 11 | 117 |
| 5. Entrepreneurs given other assistance | 647 | 235 | 328 | 1210 | 10,608 |
| 6. Entrepreneurs given economic information for starting new industries | 2 | 32 | 11 | 45 | 687 |
| 7. Entrepreneurs given export assistance | 14 | 14 | — | 28 | 308 |

Prominent instances of technical assistance rendered by the Institute during 1969-70 covered following industries such as foundries, manufacture of rubber foam, emery powder, numbering machines, light roofing material, electric motors, leather goods, industrial hand gloves, etc. Technical advice or assistance was based on an analysis of the nature of the problem faced by the individual small enterprises and it generally related to one or more of the following: appraisal of the correct or improved method of processing raw materials; rectification of defects in machinery and equipment, development and fabrication of new devices, suitable jigs and fixtures, prototypes, improvement of the designs of and defects in the products manufactured by small enterprises. Complete technical guidance was also given to a few entrepreneurs who desired to set up new small enterprises such as manufacture of ebonite articles, for electroplating and metal finishing, etc.

The Institute prepared, during the year, 551 designs and drawings of tools, jigs, fixtures, dies and machine layouts and 46 model schemes for the manufacture of various items having scope, for the use of entrepreneurs. The Institute also prepared *ad hoc* schemes at the request of trade associations and furnished technical details to them.

### Workshop and Laboratory Services

The Central workshop attached to the Institute at Madras and the Workshops in the four Extension Centres provide servicing facilities to small scale units in Tamil Nadu. A brief account of the assistance given by the Institute Workshops and Extension Centres during the year 1969-70 is given below:

1. Leather Finishing Centre, Erode assisted 433 parties and undertook 3,505 leather finishing jobs.
2. The Extension Centre, Coimbatore, helped 627 parties and undertook 631 foundry job works.
3. The Extension Centre, Madurai, executed 399 jobs in machine shop, tool room, forge shop and electroplating.
4. The Extension Centre, Pondicherry, assisted 282 parties in 340 general engineering jobs.
5. The workshop attached to the Institute at Madras assisted 766 parties.

In the workshop attached to the glass and ceramics division of the Institute, experiments are being conducted in glass and ceramics and a large number of small industrialists are taking full advantage of these facilities. The electroplating and the wood working sections attached to the Central Workshop have undertaken job works from a number of small scale units and have been helpful in solving problems faced by the entrepreneurs in these lines.

The mobile workshops function as peripatetic training units and provide necessary assistance to artisans in adopting new techniques and in improving their skill and productivity.

During the year 1969-70 the mobile vans fitted with machines toured 138 centres (74 in urban areas and 64 in rural areas), held 1062 demonstrations and imparted training to 361 artisans in the use of power-driven machines and in adopting better techniques of production. The mobile vans which participated in the Intensive Campaigns held in Thanjavur and Ramanathapuram districts during the year were also helpful in focussing public attention to the benefits derived by entrepreneurs in these campaigns.

### Management Consultancy Service

Management Consultancy Service is provided to small industrialists with a view to acquainting them with the adoption of better management techniques. The officers of the Industrial Management and Training Section attached to the Institute have visited many small scale units to render on-the-spot advice on various matters like ways and means of bringing down production cost, personnel management, better methods of advertising and publicity, export marketing methods, etc.

In the Industrial Management Appreciation Courses conducted during 1969-70, 131 persons were given training. During the above period, specialised courses on Export Marketing, Marketing Management, Financial Management and Cost Accounting and Production Management, were conducted, giving training to 216 persons. Further ad-hoc courses on Statistical Quality Control, Possibilities of Starting Small Industries (for technically qualified persons) and on Management Planning were conducted, and a total number of 119 persons attended the courses.

At present, Regular and Ad hoc courses in Machine Shop Practice, Foundry, Blacksmithy and Forging, Electrical shop and Carpentry, etc. are being conducted at the Institute and the Extension Centres for artisans and supervisory personnel for improving their skills and competence. During the year, 257 persons were trained in the above trades.

An advanced training course on Paints & Varnishes of six weeks' duration was conducted by the Chemical Engineering Section of the Institute. The small scale units as well as the Integral Coach Factory, Southern Railway and Directorate of Industries and Commerce, Madras sponsored candidates for this training. The response to the training course was such that as against an estimated strength of only 10 candidates, 21 candidates successfully completed the training course.

Stipendiary Training courses in modern methods of footwear manufacture are conducted by the Central Footwear Training Centre, Industrial Estate, Guindy, Madras. Certificates are awarded to the successful trainees who complete the course and qualify themselves in the examination held at the end of the term.

*An inside view of the Industrial Extension Centre at Madurai, Tamil Nadu*

### Enterprise Counselling

Towards rendering integrated advice on managerial and technical problems a scheme has been evolved by which a team of management experts and technical officers visit select small scale units and conduct diagnostic studies on different aspects such as management, production, marketing, etc. and make a comprehensive report (called the In-plant Study Report) offering suggestions for improvements.

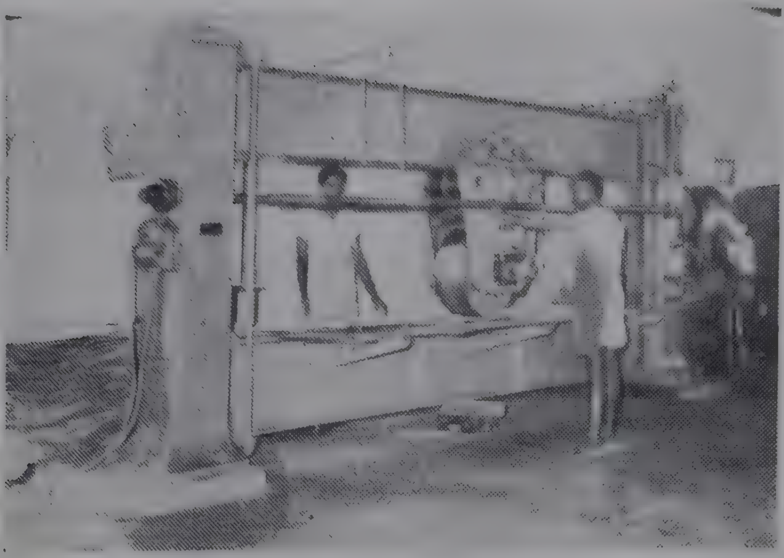
### Economic Investigation and Information Service

The Economic Investigation Division in the Institute makes varied and significant contributions for the development of small scale industries. A brief summary of the main activities of the Economic Investigation Division during the period 1969-70 is given below:

The Economic Investigation Division has provided economic/general information for 1,332 enquiries received during the year 1969-70 on the scope for establishing new industries in specific areas, information relating to demand capacity and production of particular items, marketing assistance, etc. Industry Prospect Sheets have been prepared for 53 items during the year, and these studies are undertaken mainly to find out the prospects for their future development.

### Distribution Aid Surveys/Regional Market Surveys

(a) At the request of the Tamil Nadu State Small Industries Corporation Ltd., Madras, a market survey on radial drilling machine in the State was conducted and the report sent to the Corporation.



*Sole leather rolling machine at work in the Leather Finishing Centre, Erode, Tamil Nadu.*

(b) At the request of the Department of Industries and Commerce, Tamil Nadu, a market survey on dairy equipment in the State was conducted and the report was sent to the Industries Department.

The following *ad hoc* surveys were conducted during the year 1969-70:

1. *Rapid Survey of Industrial District Potentialities*:
   a. Thanjavur District
   b. Ramanathapuram District
2. *Techno-Economic Surveys*:
   a. Komarapalayam—Salem District
   b. Thiruvannamalai of North Arcot District
3. *Growth Potential Survey of various Industrial Estates in Tamil Nadu.*
4. *Other Surveys*:
   (a) Study of the Air-conditioning and Refrigeration Industries.
   (b) A study of Instruments industry.

Two intensive campaigns in Tanjore and Ramanathapuram districts were conducted during the year 1969-70. One feasibility report on "finished leather" was prepared and sent to the Development Commissioner's office. 650 index cards prepared by the Division contain economic information about small scale units.

**Rural Industrialisation Programme**

The Small Industries Service Institute, Madras, has been actively associated with the implementation of the Rural Industrialisation Programme. The Rural Industries Projects Areas in this State are at Sriperumbudur, Omalur, and Nanguneri. The technical officers of this Institute periodically visit these places not only to render technical guidance but also to speed up the progress. They provide assistance in identifying prospective items of manufacture and distribute model schemes for various industries.

**Export Promotion**

In an endeavour to increase exports from the small scale industries, the Small Industries Service Institute at Madras helps the entrepreneurs to keep abreast of the latest developments in the field. There is an Export Promotion Cell attached to the Institute, and during the year 1969-70, it has assisted 308 parties on various aspects of exports like pricing, Government assistance on export packing, documentation, names of buyers abroad, etc. In addition, market survey reports on products like frozen processed foods were circulated to capable small scale units.

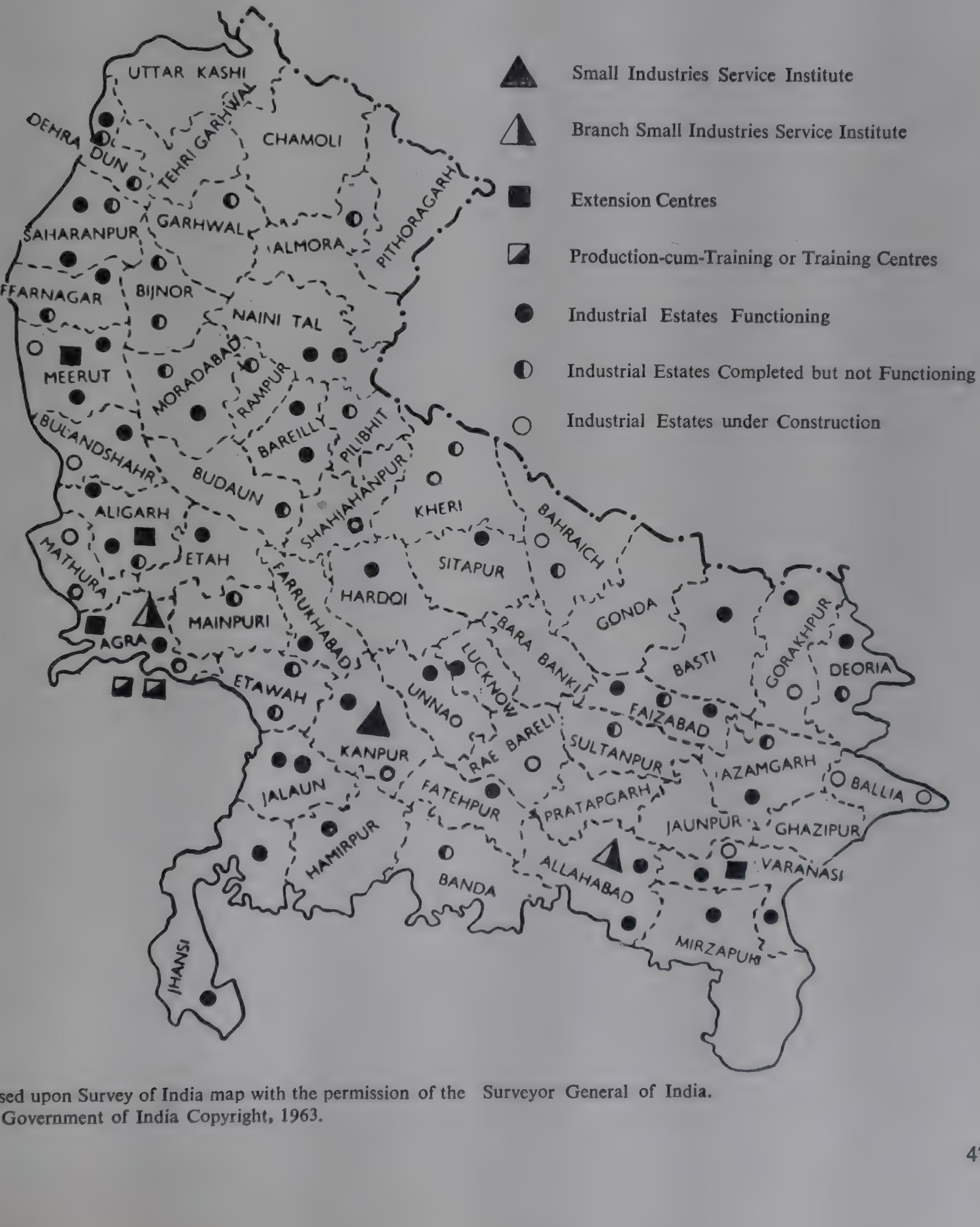
**Exhibition**

The Small Industries Service Institute, in collaboration with the Directorate of Industries and Commerce, Tamil Nadu, and the Tamil Nadu State Small Scale Industries Association, has organised a permanent Small Industry Exhibition in the Industrial Estate at Guindy. A large variety of items have been exhibited to show in a general way the achievements and success of small industries in Tamil Nadu.

So far, a total number of about 25,000 entrepreneurs, including new entrants in the field of small scale industries, staff of technical and educational institutions and also general public, have visited this permanent exhibition.

# UTTAR PRADESH

AN integrated Industrial Extension Service is provided through the Office of the Development Commissioner (Small Scale Industries) in the Union Ministry of Industrial Development and Internal Trade with a network of Small Industries Service Institutes and Extension Centres in nearly 85 Centres all over the country. Though the development of small scale industries in India is primarily the responsibility of State Governments, the Central Government have



Based upon Survey of India map with the permission of the Surveyor General of India.

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*A view of SISI, Kanpur (Uttar Pradesh)*

assumed responsibility for planning and co-ordinating the basic programme for development.

A positive programme for the development of modern small scale industries in India was suggested by the Ford Foundation Team, which visited the country in 1953-54. Based on their recommendations, the Small Scale Industries Development Organisation (SSIDO) was set up in the year 1954. The Small Scale Industries Board was also constituted in the same year as a high level consultative and advisory body with the Union Minister of Industry as its Chairman and State Ministers and other Central and State Government officials as members.

The organisational set-up (of the SSIDO) for the development of small scale industries in Uttar Pradesh comprises the Small Industries Service Institute at Kanpur with Branch Institutes, one each at Allahabad and Agra and four Extension Centres at Aligarh, Meerut, Firozabad and Varanasi. Besides, there is one Central Footwear Training Centre and a Precision Shoe Last Factory, both located at Agra, for further development of the footwear industry in U.P.

The services provided by this Organisation in U.P. include advice regarding new industries to be set up, preparation of schemes, advice on machinery, manufacturing processes, designing and manufacture of dies, tools, jigs and fixtures, economic information, training—both technical and managerial—management consultancy service, guidance in export marketing, and publication of model schemes, bulletins and technical literature, etc. The main activities of this Organisation are discussed in the following sections.

**Economic & Commercial Intelligence**

The Small Industries Service Institute has conducted a unit-to-unit survey in all the important industrial towns of Uttar Pradesh with a view to finding out the existing position in the small

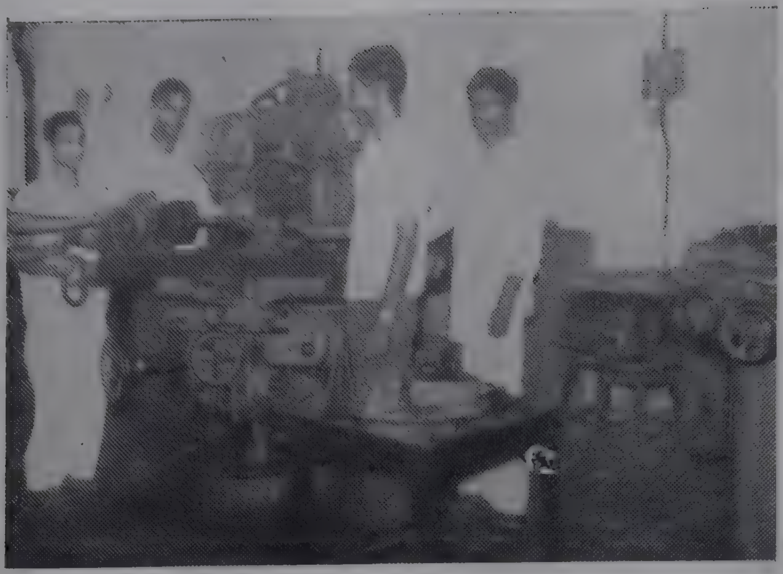
*Participants in the Exports Marketing Course held at Meerut organised by the SISI, Kanpur*

scale industries. This study, completed in the year 1964, revealed a steady growth of small scale industries at important centres like Ghaziabad, Meerut, Saharanpur, Agra, Aligarh, Firozabad, Kanpur, Lucknow, Allahabad, Varanasi and Gorakhpur. As a result of the concerted efforts of the Directorate of Industries and this Organisation, a number of small scale industries came up in U.P. manufacturing sophisticated items like diesel engines, electric fans, pumps, hypodermic needles, air compressors, tape recorders, clocks, automobile parts like horn relays etc. Based on this survey, the number of small scale industries in UP had gone up to 3,600 in 1964 from 800 in 1947. At present, there are 24,203 small units registered with the Directorate of Industries, U.P. The year-wise growth of these industries since 1957-58 and the Zonal & District-wise break-up are given in the following tables.

TABLE I

**Growth of Registered Small Scale Units in Uttar Pradesh**

| *Year* | *No. of units set up* | *Cumulative total No. of units* |
|---|---:|---:|
| 1957-58 | 587 | 587 |
| 1958-59 | 723 | 1,310 |
| 1959-60 | 830 | 2,140 |
| 1960-61 | 967 | 3,107 |
| 1961-62 | 1,120 | 4.227 |
| 1962-63 | 1,053 | 5.280 |
| 1963-64 | 1,685 | 6,965 |
| 1964-65 | 3 044 | 10,009 |
| 1965-66 | 1,723 | 11.732 |
| 1966-67 | 2,411 | 14,143 |
| 1967-68 | 2,866 | 17.009 |
| 1968-69 | 2,688 | 19.697 |
| 1969-70 (30-6-70) | 4.506 | 24.203 |



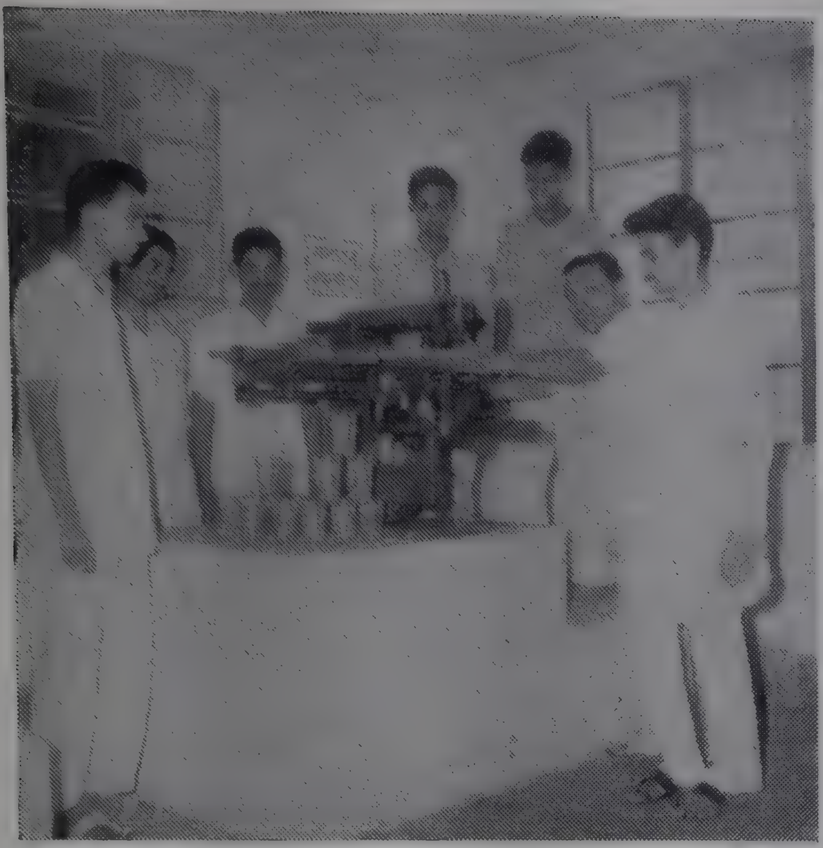
*Power hammer in operation—Extension Centre, Naini, Allahabad*

TABLE II

**Dispersal of Small Scale Units in Uttar Pradesh (As on 30.6.70)**

| *Sl. No.* | *Name of district* | *No. of small scale units* |
|---|---|---|
| | **Northern Zone** | |
| 1. | Bareilly | 440 |
| 2. | Moradabad | 1,424 |
| 3. | Rampur | 160 |
| 4. | Bijnor | 246 |
| 5. | Pilibhit | 147 |
| 6. | Shahjehanpur | 125 |
| 7. | Badaun | 76 |
| 8. | Nainital | 336 |
| 9. | Almora | 45 |
| 10. | Pauri | 24 |
| 11. | Tehri | 14 |
| 12. | Chamoli | 10 |
| 13. | Pithoragarh | 70 |
| 14. | Uttar Kashi | 11 |
| | Total | 3,128 |
| | **Southern Zone** | |
| 1. | Allahabad | 913 |
| 2. | Kanpur | 2,429 |
| 3. | Fatehpur | 139 |
| 4. | Farrukhabad | 329 |
| 5. | Etawah | 290 |
| 6. | Jhansi | 278 |
| 7. | Hamirpur | 36 |
| 8. | Banda | 57 |
| 9. | Jalaun | 146 |
| | Total | 4,617 |
| | **Eastern Zone** | |
| 1. | Varanasi | 1,274 |
| 2. | Ghazipur | 191 |
| 3. | Mirzapur | 653 |
| 4. | Gorakhpur | 327 |
| 5. | Ballia | 149 |
| 6. | Basti | 370 |
| 7. | Azamgarh | 318 |
| 8. | Deoria | 189 |
| 9. | Jaunpur | 114 |
| | Total | 3,585 |
| | **Central Zone** | |
| 1. | Lucknow | 1,021 |
| 2. | Sitapur | 296 |
| 3. | Hardoi | 166 |
| 4. | Faizabad | 652 |
| 5. | Unnao | 145 |
| 6. | Lakhimpur Kheri | 224 |
| 7. | Sultanpur | 97 |
| 8. | Pratapgarh | 104 |
| 9. | Rae Bareli | 184 |
| 10. | Gonda | 222 |
| 11. | Barabanki | 250 |
| 12. | Bahraich | 146 |
| | Total | 3,507 |
| | **Western Zone** | |
| 1. | Meerut (including Ghaziabad) | 2,768 |
| 2. | Saharanpur (including Hardwar) | 770 |
| 3. | Dehradun | 502 |
| 4. | Muzaffarnagar | 767 |
| 5. | Bulandshahr | 349 |
| 6. | Aligarh | 786 |
| 7. | Agra | 2,368 |
| 8. | Mathura | 407 |
| 9. | Mainpuri | 475 |
| 10. | Etah | 174 |
| | Total | 9,366 |
| | Grand Total | 24,203 |

This Institute has also undertaken district-wise surveys to explore the potentialities for industrial development based on the availability of local resources and demand. 25 such studies have been completed in the State. The names of the districts surveyed so far are Hardoi, Barabanki, Lucknow, Gorakhpur, Jhansi, Uttar Kashi, Chamoli, Pithoragarh. Mirzapur, Pauri Garhwal, Ballia, Mainpuri, Deoria, Rae



*Industrial Extension Centre at Ferozabad which is a noted centre for glassware manufacture. Glass tumblers are being decorated at the Extension Centre.*

Bareli, Jalaun, Rampur, Pratapgarh, Bahraich, Gonda, Jhansi, Muzaffarnagar, Faizabad, Sultanpur and Pilibhit. Field studies have been completed in respect of Fatehpur, Farrukhabad, Banda and Sitapur districts and reports thereon are under preparation.

With a view to suggest suitable small scale industries having scope for further expansion, the Institute prepares Industry Prospect Sheets, indicating economic data on existing capacity and production, technoeconomic feasibility of starting the industry on small scale and likely competition both in large scale and small scale sectors. Around 300 such studies have been completed in the State on a wide variety of items.

The Institute maintains statistics for the small scale industries in U.P. in form of card indexing. So far 7,000 cards have been prepared, giving information on investment, employment and production etc. in each unit.

**Technical Consultancy**

The Institute including the Branch Institutes and Extension Centres have rendered advice to over 28,000 parties, till 1969-70, on various subjects like improved processes of manufacture, appropriate machinery and equipment and raw materials including information on substitutes, etc.

*Shri T. Swaminathan, ICS, Cabinet Secretary, on a visit to SISI Kanpur to address small industrialists, Shri S.H. Jadhav, Director, SISI Kanpur (extreme right) looks on.*

It may not be out of place to mention that a good number of small scale units have been set up in the State mainly on the advice and assistance provided by this Organisation.

**Training in Industrial Management**

Training courses in the modern methods of industrial management including production management, financial management and cost control, marketing management, factory legislation etc. are organised at all the important industrial centres in the State for the benefit of the small industrialists and their senior executives and prospective entrepreneurs.

*A leather buffing machine in operation at the Extension Centre, Meerut (U.P.)*

*A view of the shoe last model room of the Precision Shoe Last Factory at Agra, under SISI Kanpur.*

1,600 persons have already received training in various fields of industrial management in U.P.

Besides, the Institute has also been rendering useful advice to small enterprises on several aspects of management through the personal visits by the concerned officers to the factories. Inplant studies for the small industries are also undertaken by the Institute to make comprehensive study of the units in the fields of production, management, finance, sales etc., and necessary recommendations are made to enable them to increase their profitability.

### Training in Technical Courses

Training in technical courses is provided on a regular basis in the workshops attached to the Institute as well as other Branch Institutes and Extension Centres in subjects like Machine Shop Practice, Die & Tool Making, Heat Treatment, Gas Welding etc., with a view to upgrading the skills of artisans engaged in small scale industries.

So far, 700 workers sponsored by the small industries have been trained under this programme.

### Stores Purchase Programme

Small scale units manufacturing various items required by the Central Government Departments and Government Undertakings are enlisted for participation in the Central Government Stores Purchase Programme and they are provided technical assistance so that their quality is acceptable to the indenting authorities. It may be mentioned that Uttar Pradesh generally ranks third, next to Maharashtra and West Bengal in supplies to the Central Government Departments.

### Financial Assistance

The Institutes is engaged in providing techno-economic feasibility reports to the State Bank and other nationalised banks to enable them to advance loans to small scale units. After the nationalisation of the important commercial banks, this activity has been gaining increasing importance.

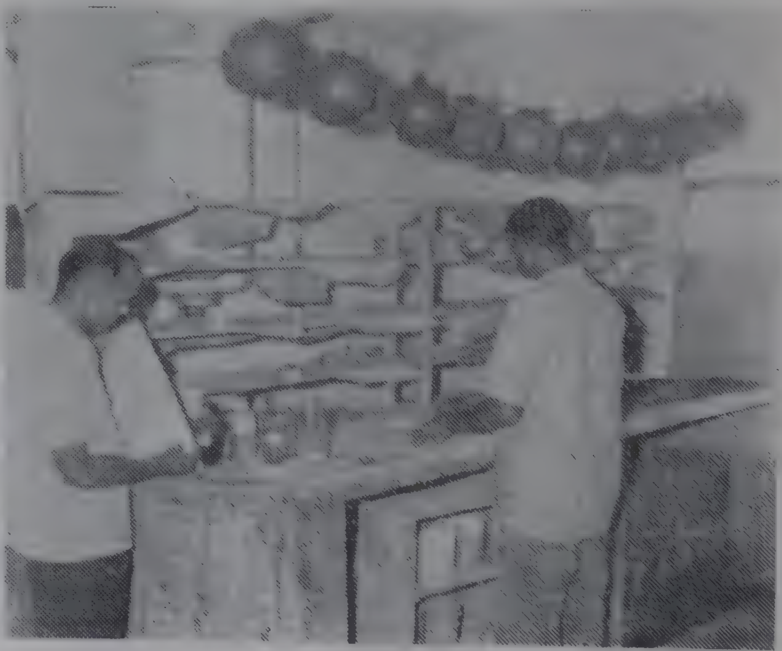
### Export Promotion

The Institute is providing 'know-how' for export marketing to the small industrialists, through its consultancy services, specialised training, and publication of literature. The Institute has already organised fourteen training courses on this subject, in which about 350 small industrialists and their representatives were trained. The Institute also brings out an Export News Bulletin with a view to disseminate useful information to the exporters in the State. It may be mentioned that various units have taken up the export of items like cycles and cycle parts, stuart type pumps, electrical fittings and builders' hardware, leather garments, greeting cards etc. exclusively on the advice and assistance rendered by the Institute.

### Training Programme for Engineering Graduates

With a view to providing employment opportunities to the engineering graduates and diploma holders in the country, the Ministry of Education and Youth Services in co-operation with the Ministry of Industrial Development & Internal Trade have initiated a programme of four-month training to

*Extension Centre, Meerut specialises in sports goods. Picture shows pigment process in progress.*



fresh graduate engineers who have a bias for setting up small scale industries. Fifty participants including twentyfive degree holders and twentyfive diploma holders have been admitted for one such training course which was inaugurated by Shri Padampat Singhania, a prominent industrialist of Kanpur.

### Development of Agro-Industries

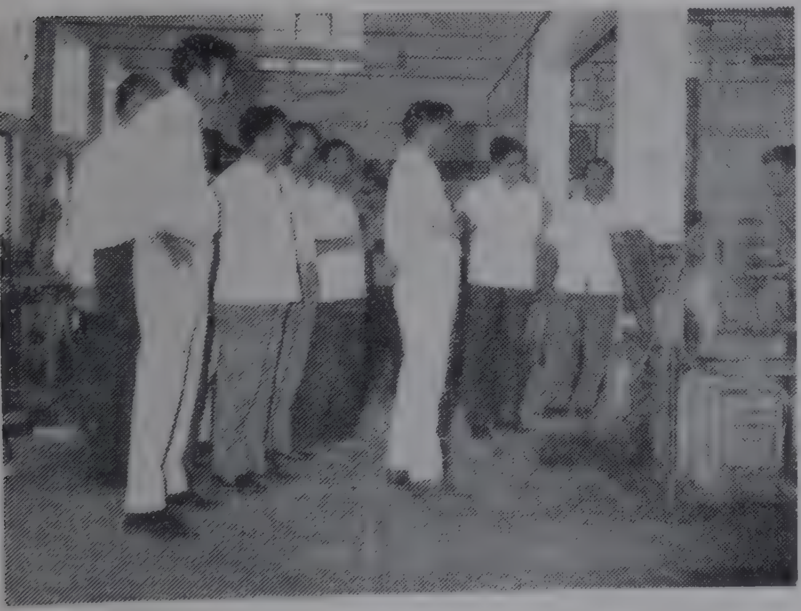
The State's economy being predominantly agricultural, it offers a very good scope for setting up new industries based on (a) utilistion of agricultural resourses of the State like potatoes, oilseeds, vegetables, fruits, spices, dairy products etc. (b) requirements of the inputs for agriculture like agricultural implements, fertilizers, sprayers, dusters, pesticides etc. and (c) utilisation of agricultural by-products like mollasses, bagasse, oil cakes etc.

### Small Farmer's Scheme

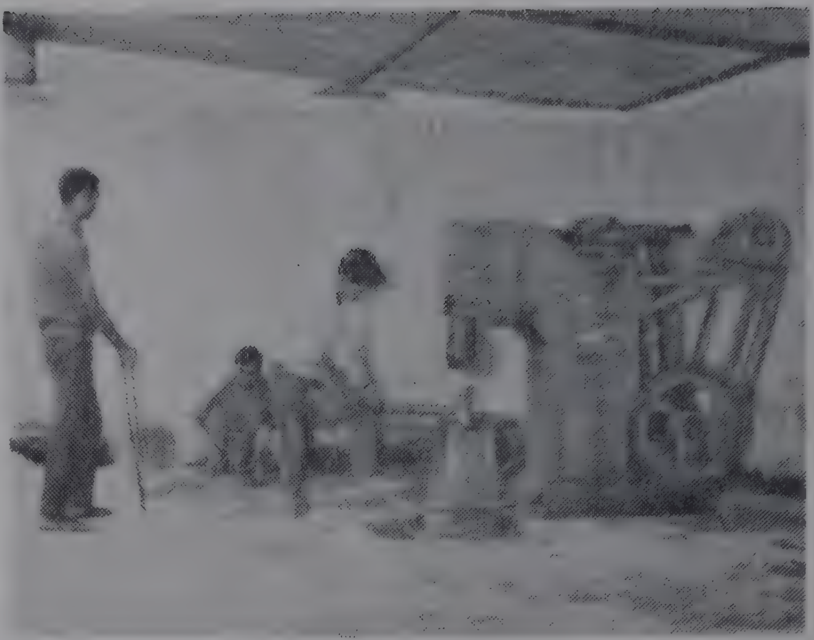
Four districts of U.P. namely, Rae Bareli, Pratapgarh, Fatehpur and Badaun have been covered under small farmers development scheme. In these districts small farmers will be helped in increasing agricultural output as well as starting small industries. The Institute has accordingly prepared 40 special schemes on new enterprises which are suitable for being set up in the rural areas by the small farmers of the State. There is no doubt this scheme will further accelerate the pace of industrial development in the State.

### Development of Industrial Estates

In order to increase the pace of industrialisation in the State, 70 industrial estates have been constructed in the State so far. There are 1,012 sheds in which 540 units are reported to be working. The existing position of industrial estates is given below:



*Operation of the T.C.M. Machine by a trainee at the Branch SISI at Allahabad.*



*Training in milling practice at Extension Centre, Muzaffarpur (U.P.)*

TABLE III

**Industrial Estates at a Glance in U.P. (1969-70)**

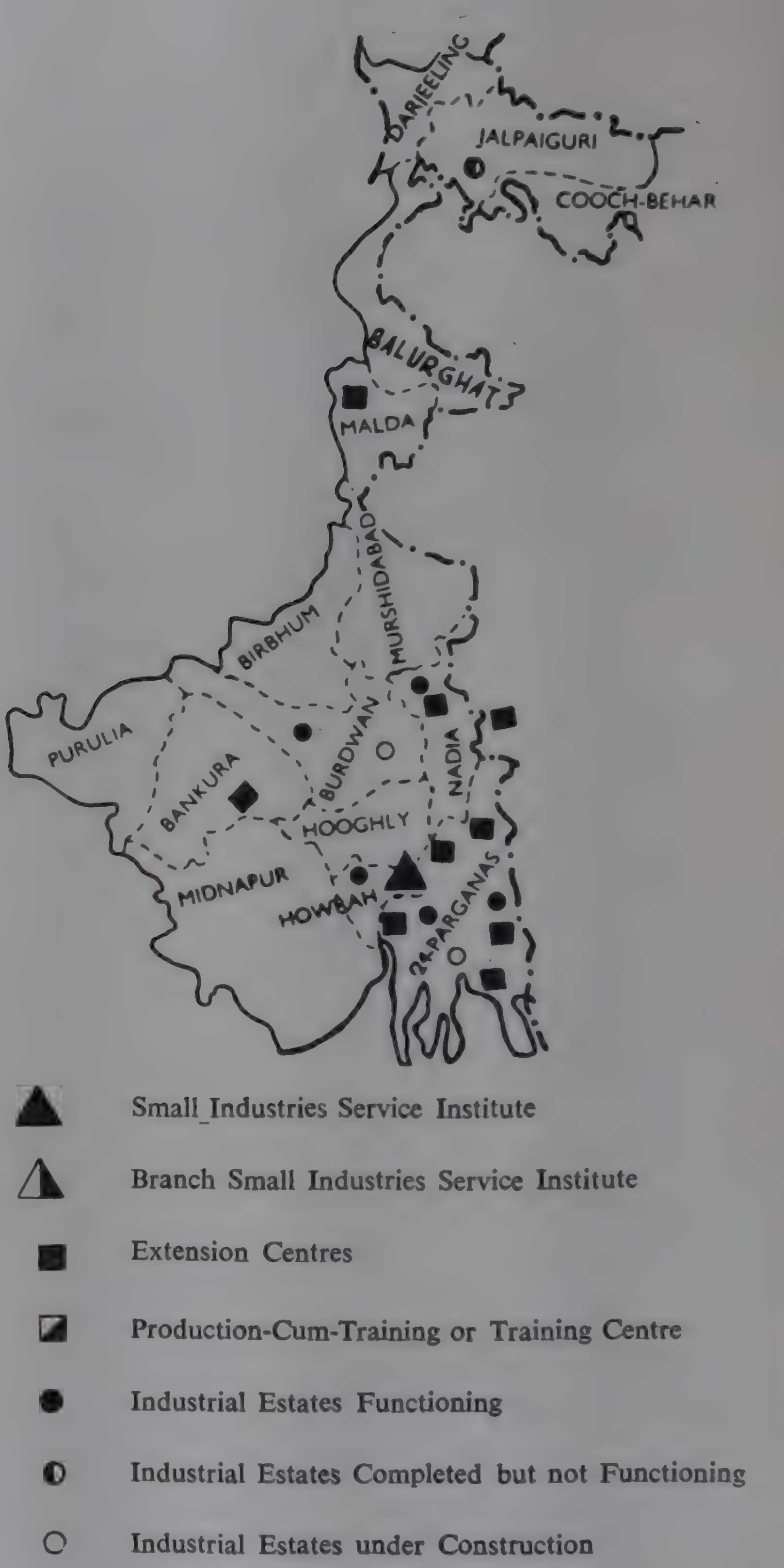
| | | |
|---|---|---|
| 1. | Total no. of industrial estates | 70 |
| 2. | No. of sheds constructed | 1,012 |
| 3. | No. of sheds allotted | |
| | (a) For industrial purposes | 652 |
| | (b) For other uses | 197 |
| 4. | No. of units working | 540 |

### Intensive Development Campaigns

The programme for the conduct of Intensive Development Campaigns was formulated by this Organisation in the year 1959 with a view to creating a climate conducive to the development of small scale industries by intensive instruction and propaganda about various services and facilities being offered by the Government. Under this programme, officers of this Organisation go to the prospective industrialists and guide them by suggesting suitable lines of production and render technical assistance. Meetings and Group Discussions are held in which the officers of the Central and State Governments, local MPs and MLAs and existing industrialists and potential entrepreneurs are invited to participate.

Such Intensive Campaigns have been successfully launched at places like Hardoi, Sultanpur, Pratapgarh, Rae Bareli, Gonda, Varanasi, Farrukhabad and Jhansi. The response of the local people has always been encouraging in such programmes.

# WEST BENGAL


DARJEELING
JALPAIGURI
COOCH-BEHAR
BALURGHAT
MALDA
MURSHIDABAD
BIRBHUM
PURULIA
BANKURA
BURDWAN
NADIA
HOOGHLY
MIDNAPUR
HOWRAH
24-PARGANAS
▲ Small Industries Service Institute
◭ Branch Small Industries Service Institute
■ Extension Centres
◩ Production-Cum-Training or Training Centre
● Industrial Estates Functioning
◐ Industrial Estates Completed but not Functioning
○ Industrial Estates under Construction

Based upon Survey of India map with the permission of the Surveyor General of India.

The territorial waters of India extend into the Sea to a distance of twelve nautical miles measured from the appropriate base line.

Bhutan is a state in special treaty relations with India.

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IN the history of industrial development in India, West Bengal holds the position of the pioneer. Industries grew in this eastern state of India because it offered, by its geographical position and through historical process, the necessary infra-structure for the growth and development of modern industries.

In West Bengal, the growth of small scale industries has been quite steady during the last decade. Table I shows the steady rise in the number of the registered units in the small scale sector in West Bengal over a number of years.

TABLE I

**Units Registered with the Directorate of Cottage & Small Scale Industries, West Bengal**

| Year | No. of units |
|---|---|
| 1961-62 | 3,517 |
| 1962-63 | 5,122 |
| 1963-64 | 6,882 |
| 1964-65 | 8,147 |
| 1965-66 | 9,431 |
| 1966-67 | 11,151 |
| 1967-68 | 12,673 |
| 1968-69 | 14,231 |
| 1969-70 | 16,810 |

As against the above figures, the total number of factories registered with the Factories Directorate,

*Front View of the SISI, Calcutta.*

West Bengal, are given below for two years:

TABLE II

**Factories Registered with the Factories Directorate**

| Year | No. |
|---|---|
| 1968 | 6,151 |
| 1969 | 6,121 |

**Product Range**

West Bengal manufactures a large variety of products in the small scale sector. A comprehensive list, if prepared, will run to not less than thousand products. While many of the units are still producing the conventional items, others have diverted their resources partially to the manufacture of sophisticated products to meet the demand for these products. Their technical competence and mature commercial knowledge have enabled many small industrialists in the State to take up the manufacture of new products, specially keeping in view the scope for import substitution and export promotion. Besides the conventional products, mention may be made of the following new products in different manufacturing lines which bear evidence of technological advancement in the small scale industries of the State.

*Mechanical*

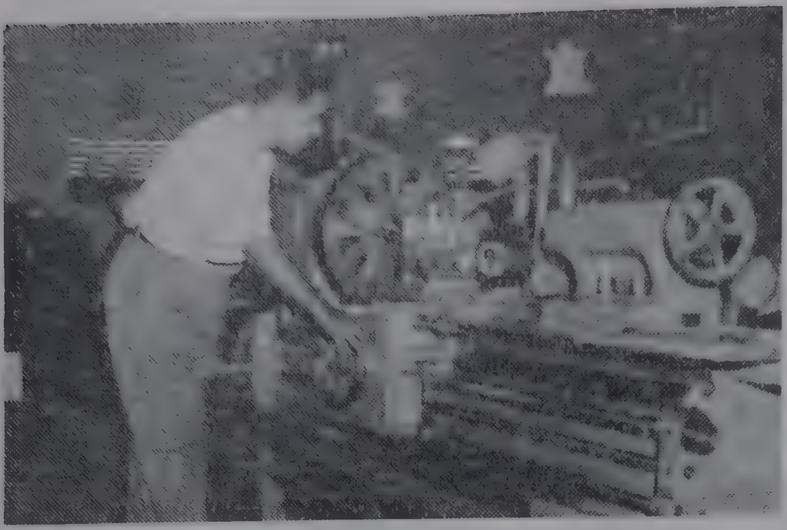
1. Bridge Bearings
2. Sine-bar (used in Rolling & Re-rolling Steel Plant)
3. Flexible Cup Toothed Shaft Coupling
4. Telephone Plugs
5. Battery-Operated Pallet Truck
6. Universal Lifting & Pulling Machines
7. Industrial Machinery
8. Theodolites
9. Pneumatic Tools
10. Milling Cutters
11. Microscopes
12. Diesel Engines (with Centrifugal Pump for Lift Irrigation)
13. Power Tillers
14. High Tension Bolts & Nuts
15. Vacuum Pumps

*Electrical & Electronics*

1. Diathermic Clinical & Surgical Unit
2. Power Factor Meters
3. Moving Coil Vibration-proof Locomotive Instruments
4. Transistorised Ignition Control
5. Pyrometric Thermo Couple
6. Power Factor Correction Relay
7. H.T. Instrument Transformers upto 230 K.V.
8. Synchronous Time-Delay Relay
9. Transistorised Time-Delay Relay
10. X-Ray Film Processing Equipment
11. Cable Marking Ferrules
12. Glass Yarn covered Copper Wire
13. Stereo Ampligram

*Metallurgy*

1. Spheroidal Graphite Iron
2. Chilled Rolls
3. Aluminium-Bronze Marine Propellers
4. Sintered Copper-Tungsten Electrical Contacts
5. Copper-Chromium Electrical Contacts
6. Age Hardenable Aluminium Alloy Components
7. High Temperature Resistant Steel Castings



*A view of the Machine Shop of the SISI, Calcutta. An operator engaged in producing precision-turned components.*

*Glass & Ceramics*

1. Fused Bifocal (Optical) Glass
2. Steatite Porcelains
3. Water Filter Candles
4. Ferrite Rods and other Electronic Components made of Ceramic Material
5. Titanium Thread Guides
6. High Alumina Refractory Products
7. Decorated Mini Tiles

*Chemical*

1. Fibre Glass Reinforced Plastic Products
2. Synthetic Resins
3. Plasticizers
4. Blow Moulded PVC Containers
5. Electroplated Plastic Articles
6. Urea Formaldehyde Powder
7. Dye Intermediates & Dye Stuffs
8. Pesticides Formulations
9. Rubber Adhesives
10. Plastic Based Adhesives
11. Industrial Moulded Rubber Goods
12. Industrial Plastic Articles

*Leather*

1. Injection Moulded Footwear
2. Blue Goat Skins
3. Leather Board
4. Fancy & Artistic Leather Products
5. Buff Calf and Hides in Blue Condition

### Action Committee for Organised Growth

The development of small scale industries in West Bengal has been possible through the combined and co-ordinated efforts of a number of agencies. To direct the small industries development on desired lines and to arrest haphazard growth, a high powered committee, known as the Action Committee, was set up in 1963. Small Industries Service Institute, Directorate of Cottage & Small Scale Industries, West Bengal, National Small Industries Corporation and the associations of the small industrialsists have their representatives in this Committee. During the last five years, the Action Committee has examined and given its decision in respect of about 2,000 schemes in different lines of manufactures. In the matter of preparation of schemes for approval by the Action Committee, the contribution of the Small Industries Service Institute is the maximum.

### Role of Small Industries Service Institute, Calcutta

The role played by the Small Industries Service Institute, Calcutta in the promotion and development of small industries has been remarkable. First set-up in 1955 as a Regional Institute, and then reorganised as a State Institute in 1959, the SISI, Calcutta still continues to provide expertise to all the states in the Eastern Region due to its wider experience and other operational advantages.

The services rendered by the SISI can be broadly grouped under (1) Economic Investigation and Information Service, (2) Technical Assistance Service, and (3) Management Consultancy and Technical Training Service.

#### (1) *Economic Investigation & Information Service*

The Economic Investigation & Information Service has been the kingpin of the activities of the Institute since its inception. The growing need for this service can be assessed from Tables III & IV.

TABLE III

**Persons Benefited by the Information Service**

| Year | No. of Parties assisted |
|---|---|
| 1965-66 | 1,944 |
| 1966-67 | 2,800 |
| 1967-68 | 4,307 |
| 1968-69 | 5,904 |
| 1969-70 | 8,398 |

TABLE IV

**Progress of Regular Investigation Programme**

| Year | No. of Ad hoc & Special Enquiries | No. of Industry Prospect Sheets |
|---|---|---|
| 1965-66 | 46 | 16 |
| 1966-67 | 105 | 25 |
| 1967-68 | 101 | 76 |
| 1968-69 | 60 | 16 |
| 1969-70 | 104 | 47 |

In addition to the regular programmes as shown above, the Economic Investigation Division also completed a number of Market Research and Commodity Survey Reports, Techno-Economic Studies and a few Area Survey Reports since 1965-66. This Division also attended to such special studies as:

(1) Recession in selected industries in West Bengal;
(2) Obsolescence of machinery in the small scale sector;
(3) Price behaviour of selected consumer goods;
(4) Automobile ancillary industries;
(5) Industrial estates;
(6) Recession in small scale engineering industries in Howrah.

The Economic Investigation Division also organises intensive campaigns for development of small industries in industrially backward areas. Building up of key statistics about industrial units is also an important function of the EI Division. So far, data on 6,042 units have been maintained through Index Cards.

(2) *Technical Assistance & Guidance*

The Small Industries Service Institute and its Extension Centres at Baruipur, Habra, Kalyani, Manicktala, Tangra, Malda, Nabadwip, Bankura and Bon-Hoogly with its technical officers in mechanical engineering, electrical, metallurgical, chemicals, ceramics, leather tanning and footwear industries are actively engaged in giving technical assistance to small scale units on various aspects. The yearwise progress in this regard is given in Table V.

TABLE V

| Year | No. of visits paid to render on-the-spot advice | No. of parties given purely technical advice | No. of parties given information to start new industries | Parties given other assistance |
|---|---|---|---|---|
| 1965-66 | 7,614 | 4,349 | 1,852 | 3,352 |
| 1966-67 | 6,966 | 4,517 | 1,790 | 4,114 |
| 1967-68 | 9,603 | 7,521 | 2,728 | 8,758 |
| 1968-69 | 6,367 | 8,906 | 2,709 | 10,745 |
| 1969-70 | 5,678 | 8,394 | 3,517 | 10,877 |

*A draughtsman at work in the SISI, Calcutta.*

**Workshop & Laboratory Service**

The Institute at Calcutta is equipped with a workshop in mechanical engineering, besides chemical, metallurgical & electrical laboratories. Besides these facilities at Calcutta, there are Extension Centres in various places of West Bengal. The names of Extension Centres along with their trades are given below:

TABLE VI

| Place | Trade |
|---|---|
| 1. Baruipur | Mechanical |
| 2. Kalyani | Mechanical |
| 3. Habra | Mechanical |
| 4. Manicktala (Calcutta) | Leather Footwear |
| 5. Nabadwip | Mechanical |
| 6. Malda | Mechanical |
| 7. Bon-Hoogly (Calcutta) | Ceramics |
| 8. Tangra (Calcutta) | Chrome Tanning & Finishing |
| 9. Bankura | Mechanical |

The above Extension Centres and the workshop at Calcutta and the laboratories attached to the Institute have proved to be very useful in extending common facilities to small entrepreneurs and development of various product lines.

*Shri B.B. Ghosh, Principal Adviser to the Government of West Bengal, inaugurates the special training course for Graduate Engineers and Diploma Holders. He inspects some sophisticated electrical instruments and equipments displayed in an exhibition held for the occasion.*

(3) *Management Consultancy & Technical Training Services*

The SISI and its Extension Centres are providing training facilities to small entrepreneurs. Courses in Industrial Management including Production Management, Marketing Management, Financial Management, Cost Accounting & Export Marketing etc. are conducted regularly at the Institute's premises and at other centres in the State under the Management Training Programme. Under the Management Consultancy Service, Inplant Studies on specific problems of small scale units are undertaken and advice on management issues given. Similarly, technical courses in Blue-Print Reading, Heat Treatment, Foundry Practice etc. are also held regularly. The yearwise details regarding the achievements of the Training Programme are given below:

TABLE VII

**No. of Persons Trained in Various Courses**

| | Managerial Training | | Technical Training | |
|---|---|---|---|---|
| Year | No. of courses conducted | No. of persons trained | No. of courses conducted | No. of persons trained |
| 1965-66 | 9 | 203 | 20 | 176 |
| 1966-67 | 7 | 213 | 24 | 234 |
| 1967-68 | 10 | 290 | 23 | 211 |
| 1968-69 | 10 | 276 | 26 | 235 |
| 1969-70 | 7 | 151 | 56 | 954 |

A special stipendiary course for 50 Engineering Degree and Diploma holders has been arranged during 1970-71 in collaboration with the Education Ministry of the Government of India to give mainly practical orientation to them for starting small scale industries.

**Marketing Assistance**

Marketing of products is no less an important factor in the development of small scale industries. As per the programme of the SSIDO, the SISI Calcutta has already enlisted 5,123 small scale units for participation in the Central Government Stores Purchase Programme. The benefit derived by the small scale units in West Bengal from this assistance programme may be seen from the following Table which indicates the value of orders secured through the efforts of SISI Calcutta and the total value of orders executedby small scale units through the combined efforts of the SISI and National Small Industries Corporation Ltd.

TABLE VIII

**Participation of Small Scale Units in the Central Government Stores Purchase Programme**

| Year | No. of units assisted by SISI in executing orders. | Value of orders secured (Rs. million) | |
|---|---|---|---|
| | | Through SISI, Calcutta | Through SISI & NSIC, Culcutta. |
| 1965-66 | 480 | 29.549 | 52.340 |
| 1966-67 | 346 | 18.300 | 29.620 |
| 1967-68 | 412 | 28.657 | N.A. |
| 1968-69 | 265 | 20.511 | 45.899 |
| 1969-70 | 219 | 18.691 | 27.328 |

**Exhibitions**

As a part of the marketing assistance programme the SISI Calcutta runs a permanent exhibition of small industry products at the Institute premises. Every year it participates and also encourages competent small scale units to display their products in exhibitions held in India and abroad so as to get the benefit of wider market outlets.

**Ancillary Development**

The progress made during the last 5 years in this regard through the efforts of SISI, Calcutta can be seen from the following Table:

TABLE IX

**Orders Secured by Ancillary Small Scale Units**

| | 1965-66 | 1966-67 | 1967-68 | 1968-69 | 1969-70 |
|---|---|---|---|---|---|
| 1. No. of small units ancillary to large enterprises. | 496 | 117 | 635 | 525 | 388 |
| 2. Value of orders secured from L.S. Units (Rs. million). | 9.376 | 5.191 | 6.064 | 7.121 | 4.233 |
| 3. Value of orders secured from Railways (Rs. milllion). | 3.200 | 1.751 | 1.546 | 2.296 | 1.734 |
| 4. Value of orders secured from the Defence Department (Rs. million) | 1.363 | 0.846 | 0.172 | 0.076 | 0.017 |
| Total of Serial NOs. 2, 3, and 4 | 13.939 | 7.788 | 7.782 | 9.493 | 5.984 |

**Financial Assistance**

In West Bengal, the following organisations are mainly concerned with the implementation of the financial assistance programme for small scale industries:—

(1) Small Industries Service Institute, Calcutta.
(2) Directorate of Cottage & Small Scale Industries, West Bengal.
(3) West Bengal Financial Corporation.
(4) State Bank of India.
(5) Nationalised Banks.

*Small Industries Service Institute*

The role of Small Industries Service Institute, Calcutta in financial matters is limited to the dissemination of relevant information amongst small scale industries and technical scrutiny of the schemes of the applicant units at the request of the financing agency concerned.

Amount of financial assistance given by the different financing agencies in this State is shown below.

### *Directorate of Cottage & Small Scale Industries*

The details of loans disbursed by the Directorate of Cottage & Small Scale Industries, West Bengal under the State Aid-to-Industries Act are given below:

TABLE X

**Loans disbursed by the Directorate of Cottage & Small Scale Industries, West Bengal**

| Year | Loans Disbursed (Rs. million) |
|---|---|
| 1967-68 | 2.753 |
| 1968-69 | 2.479 |
| 1969-70 | 1.577 |

### *West Bengal Financial Corporation*

Long term loans are sanctioned to the small and medium scale industries of this State by the WBFC. Details of such loans are furnished below:

TABLE XI

**Loans to Small Scale Units by the WBFC.**

| Year | No. of cases | Amount sanctioned (Rs. million) | Amount advanced (Rs. million) |
|---|---|---|---|
| 1965-66 | 26 | 3.804 | 2.193 |
| 1966-67 | 22 | 3.535 | 1.351 |
| 1967-68 | 32 | 3.672 | 1.346 |
| 1968-69 | 44 | 5.180 | 1.776 |
| 1969-70 | 22 | 2.313 | 0.862 |

### *State Bank of India*

The scheme to offer financial help to the small scale industrial units was first introduced by the State Bank of India in 1956. Since then this Bank liberalised its terms and also introduced many new incentive schemes to accommodate the existing small scale industrial units as well as entrepreneurs with technical competence keen on taking up new lines of manufacture. Statistics of loans advanced by the SBI in West Bengal are furnished in the Table below:

TABLE XII

**Loans advanced to Small Scale Units in West Bengal by the State Bank of India**

| Year | No. of loans | Amount Sanctioned (Rs. million) | Amount advanced (Rs. million) |
|---|---|---|---|
| 1965-66 | 504 | 52.119 | 34.590 |
| 1966-67 | 560 | 62 380 | 41.063 |
| 1967-68 | 649 | 73.362 | 49.655 |
| 1968-69 | 819 | 104 727 | 64.678 |
| 1969-70 | 1189 | 153.569 | 102.580 |

### *Nationalised Banks*

Fourteen major Commercial Banks of this country were nationalised in July, 1969. Some of the Banks had already been running some schemes to offer financial assistance to small scale industrial units prior to their nationalisation. The performance of these nationalised Banks is shown below:

TABLE XIII

**Advances to Small Scale Units in West Bengal**

|  | Year ending June '68 | Year ending June '69 | Year ending March '70 |
|---|---|---|---|
| 1. No. of units applied for advance | 743 | 1,422 | 2,295 |
| 2. Limits sanctioned (Rs. million). | 126.2 | 197.1 | 272.1 |

### **Raw Materials**

While the SISI assists in assessing the actual requirements of different scarce imported raw materials for the small industrial units, the supply is arranged by a number of agencies of which the State Directorate of Cottage & Small Scale Industries and the West Bengal Small Industries Corporation Ltd. are important ones.

The WBSIC was set up in June, 1961 to aid, advise, assist, finance, protect and promote the interests of the small industries in the State. The activities of the Corporation were subsequently extended to the procurement and distribution of ferrous & non-ferrous metals. The number of units served by the Corporation during the last four years are shown in the following Table:

TABLE XIV

**Distribution of Raw Materials by WBSIC.**

| Year | No. of units benefited |
|---|---|
| 1965-66 | 4,527 |
| 1966-67 | 4.507 |
| 1967-68 | 1,542 |
| 1968-69 | 1,445 |

### **National Small Industries Corporation**

The National Small Industries Corporation Ltd. provides plant and machinery on hire-purchase system to the small scale industrial units besides helping the small scale units in marketing their products. The progress of the hire-purchase scheme in West Bengal is given below:

### TABLE XV

**Progress of Hire Purchase Scheme in West Bengal**

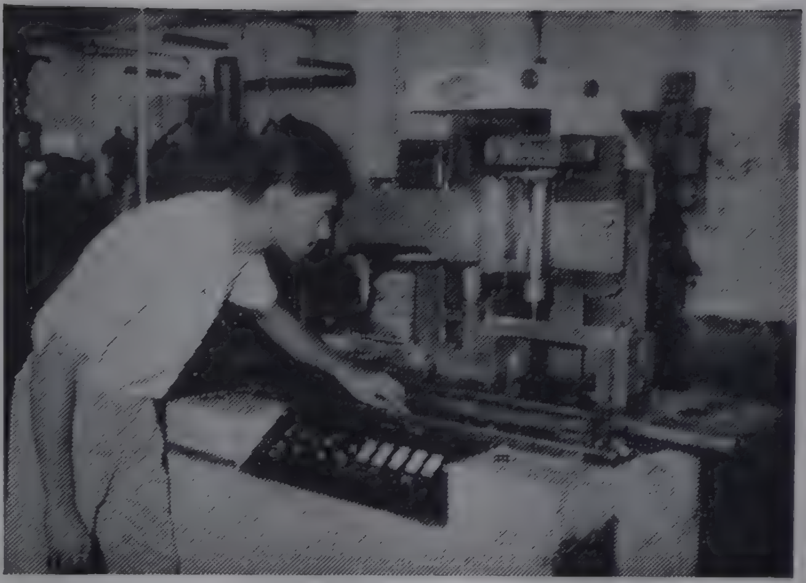
| Year | No. of applications accepted | Value of machinery delivered (Rs. million) |
|---|---|---|
| 1965-66 | 64 | 3.590 |
| 1966-67 | 41 | 2.900 |
| 1967-68 | N.A. | N.A. |
| 1968-69 | 59 | 2.458 |
| 1969-70 | 29 | 2.371 |

### Rehabilitation Industries Corporation

This statutory body has been set up by the Government of India to tackle successfully the serious problem of rehabilitation of thousands of refugees and displaced persons from East Pakistan by setting up industries, industrial estates, participation in share capital of small industrial units and marketing the products manufactured by the refugees in small scale and handicrafts units. Besides setting up a number of industrial units in this State, the RIC has built up three industrial estates at Bon-Hoogly, Behala and Durgapur where small scale industrial units have offered employment opportunities to a large number of refugee workers and are engaged in the production of many important items ranging from industrial components to sophisticated ones like electronic goods, washing machines, transistor radios, plastic articles, etc.

### Rural Industries Projects

After the Small Industries Development Programme made considerable headway in the urban areas of the country it was decided to extend the activities particularly to such selected places in rural areas which had the necessary growth potential. Under this scheme a specially constituted body known as Rural Industries Planning Committee was entrusted with the task of implementing and coordinating a package programme for intensive development of small scale industries in areas selected by the respective State Governments Special funds, incentives and other facilities were made available to the industrial units set up in such project areas. In West Bengal four Rural Industries Projects are functioning at Barasat, Tamluk, Darjeeling and Durgapur. Taking advantage of the large industrial complex at Durgapur the RIP units could execute orders for components and miscellaneous stores worth about Rs. 9.854 million during 1969-70.



*SISI, West Bengal helps to develop prototypes of sophisticated machines. Here, a Die Sinking machine designed by a technically qualified entrepreneur is being tested after assembly in the SISI workshop.*

In the implementation of the special assistance programme, the SISI, Calcutta rendered useful advice and guidance to the RIP authorities as well as to the entrepreneurs in setting up small scale units in new lines, suggesting improvements in the working of the existing units and introducing technological changes in certain product lines. The variety and volume of such services rendered by SISI Calcutta have been detailed in the Table below:

### TABLE XVI

**SISI Activities in RIP Areas**

| Type of Assistance | 1966-67 | 1967-68 | 1968-69 | 1969-70 |
|---|---|---|---|---|
| 1. No. of schemes prepared and supplied to the Project Officers. | 25 | 48 | 91 | 109 |
| 2. No. of visits paid to the RIP areas for assisting the SSI units located there. | 49 | 19 | 18 | 21 |
| 3. No. of small scale units assisted in RIP areas | 6 | 52 | 169 | 192 |
| 4. No. of demonstrations given by the mobile demonstration vans in RIP areas. | 15 | 23 | 121 | 162 |

*A sectional view of the permanent Exhibition of Small Industry Products in the SISI, Calcutta.*

### Industrial Estates & Areas

Setting up of industrial estates at suitable locations has long been accepted as one of the steps designed to promote the growth of small scale industries in an organised way. Accordingly, four such estates are now functioning in West Bengal at Howrah, Kalyani, Baruipur and Saktigarh where 90 small scale units have been provided with built-up sheds on rental basis. These units have offered employment to over 700 persons. These estates are generally of three types viz. urban, semi-urban and rural. Besides the above four urban and semi-urban estates, some rural ones are in the process of final construction.

Since the commonly built-up sheds in the estates do not always suit the particular needs of certain categories of industries and there is a long time-gap between the initial stage and the final completion of the project, it has been decided that in future more attention should be paid towards developing industrial sites around areas having growth potential where necessary infra-structural facilities might be made readily available to the prospective industrialist which would build up their own factory sheds with financial aid from the concerned agencies. In West Bengal, an amount of Rs. 10.0 million has been earmarked for development of such industrial areas during the Fourth Plan period.

### Export Promotion

While the State Trading Corporation, Chief Controller of Imports & Exports, Export Promotion Councils and other agencies have gone a long way to help the small scale units, the efforts made by the SISI, Calcutta to boost up exports particularly from the small scale sector is highly significant. As a result, it has not only been possible to export a large variety of products from the small scale sector but also carve out a sizeable market in Middle East & African countries besides the U.K., U.S.A., U.S.S.R. and other Continental countries. In the year 1968-69 the value of exports from 100 small scale units in West Bengal was of the order of Rs. 58.813 million which covered a large variety of products.

### Import Substitution

For a developing country like India, import substitution is a step towards saving of foreign exchange on the one hand and diversification and strengthening of the indigenous production on the other which makes for greater self-reliance in the economy. A large number of items have been developed in the small scale sector of West Bengal with the assistance and guidance of the Small Industries Service Institute, Calcutta.

### Machine Tool Census—1968

In 1968, the Central Machine Tool Institute, Bangalore decided to conduct a Second Census (first one being in 1954-55) covering not only large scale units registered with the D.G.T.D. and other Central Authorities but also small scale units using machine tools and numbering about 15,000 in India. The SISI of each State carried out the census in regard to the small scale units. In West Bengal the census of 2500 units was conducted jointly by the officers of the SISI, State Directorate of Cottage & Small Scale Industries and the Directorate of Industries.

### Capacity Survey

In order to have reliable estimates of raw material requirements of small scale industries in the country, survey of capacities of seven selected small scale industries using scarce raw materials was conducted by joint teams of officers of SISI and State Directorate of Cottage & Small Scale Industries in 1968-69.

In all 86 units were covered in the following industries:

(1) Transformer (2) Radiators (3) Wire Drawing (4) Small Tools (5) G.I. Buckets (6) Tin Containers (7) Paints & Varnishes.

### Incentives for Industrial Growth

With a view to helping small scale industries and encouraging development of new units, the Government of West Bengal recently announced certain incentives for industrial growth in West Bengal. These incentives

*Chemical analysis in progress in the Chemical Laboratory attached to SISI Calcutta.*

are also expected to help a large number of unemployed engineers and technicians in finding gainful employment by enabling them to set up small scale units of their own for which special credit facilities will also be provided by financial institutions. The incentives which will be available and valid for three years are summarised below:

| | | | |
|---|---|---|---|
| 1. | *Preferential Purchase* | (a) | Preference to local industries in Government purchases. |
| | | (b) | 15% price preference to small industries. |
| 2. | *Fiscal relief for new units at approved locations.* | (a) | Sales Tax may be refunded by way of interest-free loan (conditional) |
| | | (b) | Sales Tax and Entry Tax on capital equipment will be refunded from 1.4.70 to 31.3.71. |
| | | (c) | Octroi or Entry Tax on raw materials will be refunded. |
| 3. | *Loan capital* | | Assistance to new industries to obtain capital |
| 4. | *Land for setting up new industrial units or for expansion* | (a) | Government land at new growth centres (conditional) may be made available. |
| | | (b) | Private land may be acquired and given on long term lease. |
| 5. | *Feasibility report* | | State Government may bear a part of the cost of preparing feasibility report. |
| 6. | *Closed units* (closed for at least six months as on 1.8.70 and one reason being financial difficulty) | | Concessions at 1, 2, 3 available if the unit re-opens by 31.12.70. |

It is expected that with the various facilities and incentives offered by Government and other agencies, the expertise available from the SISI and the commendable initiative of the entrepreneurs, the small industry movement in West Bengal will gain greater momentum, creating greater employment opportunities and adding to the general enconomic well-being of the State.

# OTHER COUNTRIES

## BURMA

### Concept and Definition of Small Scale Industries

The term "small scale industry" has been used in different countries in different ways. Even among Afro-Asian countries it does not mean the same thing. This is so because the scope of and the role played by small scale industries varies amongst the Afro-Asian countries themselves. Thus, in India, factories and establishments having a capital investment of less than Rs. 500,000 and employing less than 50 persons when using power and not exceeding 100 persons when not using power were originally classified as small scale industries. This definition of a 'small scale unit' underwent several revisions until in 1966 it was redefined as those with a capital investment in plant and machinery (original value) not exceeding Rs. 750,000 discarding the employment criterion. Nepal, on the other hand, has classified manufacturing industries employing 10 or more workers using power or employing 20 or more persons without using power having an investment of Rs. 50,000 and below as small scale industry.

In Burma, although there is no official or legislative definition as to what constitutes small scale industry, those establishments (1) having a capital investment of less than K. 200,000 (2) having less than 100 workers, (3) having an annual sales volume of less than K. 500,000 are generally regarded as small scale industries.

### The Place of Small Industries in the Country's Economy

In Burma, according to the 1953 Population Census conducted in the urban areas and other population census conducted in 1954, covering rural areas, it was found that about 90% of all industrial establishments, large and small, had less than 100 workers. Firms having less than 50 workers accounted for 78% of all industrial concerns. Being predominantly an agricultural country, more than 56% of the establishments covered by the two categories are engaged in the manufacture of food and tobacco. Another 32% are engaged in the production of textiles, footwear and apparel, wood products and chemicals. Of the six manufacturing activities mentioned above, food, tobacco and textiles accounted for nearly 75% of the total value added. Altogether, they are responsible for 89% of the total value added by manufacture.

Looking at from another angle, in the year 1965-66, 60% of all the value of goods emanating from the industrial sector use agricultural produce as raw material, 9% of industrial production are based upon mining raw materials, 7% of industrial production are associated with forest, fisheries and animal products. Thus, the industrial structure of Burma is to a great extent geared to her natural resources. A high percentage of small scale industries is of extractive and processing character and, meeting the basic consumption requirements within and outside the country.

This phenomenon still prevails in 1968-69. Small industries are grouped under (1) Foodstuff and Tobacco, (2) Textiles, (3) Ceramics, (4) Light Engineering Work, (5) Metal Fabricating, (6) Chemical and Allied Works, (7) Miscellaneous industries, (8) Cottage and Home industries, and (9) Others. With a population of 27 million in 1969 and a high percentage of the working force, as much as 52% engaged in agriculture of all the total industrial establishments registered as manufacturing concerns, a high proportion of 96% falls into the category of small scale.

Types of important small industries covered by Foodstuff and Tobacco group are rice mill, oil mill, bran oil mill, flour mill, salt kiln, bakery, biscuits, sweet and candy, assorted jams and sweet pickle, noodle of rice, noodle of flour, wet and dry. Small industries of importance under Textile group are hosiery, towels, cotton fabrics, synthetic fabrics, socks and stockings, sweaters, sewing thread, rope and twine. Most of the factories under Ceramics are Brick making factories. Factories under Light Engineering Works are mainly those producing agricultural tools and implements, foundry forge products and repair and maintenance workshops. Those establishments under Metal Fabricating are dominated by aluminium hollow-wares, buckets, steel trunks, tin cans, hardware such as bolts and nuts, tower bolts, hinges for buildings. Factories of significance under Chemical and Allied Works are soap, PVC wire, paints, polish and plastic injection and blow moulded articles. Under Miscellaneous industries, the most important are those concerned with the making of wood, rubber and leather slippers, leather shoes, umbrellas and made-up articles of leather cloth. Among Cottage and Home industries the making of candle, parasol, household furniture, block making, lapidary, are the most prominent.

### Development of Small Scale Industries

Burma being a socialist country, the development of small scale industries has to be in accordance with the socialist economic principles under which State-owned factories constitute the first pillar of the industrial sector, and co-operatives the second pillar. In the light of this socialist transformation of the country, it is but inevitable that many small scale enterprises such as fabrication of metal products, repair and maintenance workshops, manufacture of shoes and slippers, handloom weaving etc., will, in the course of time, be brought on a selective basis within the fold of co-operatives.

### Organizations for Assisting Small Scale Industries

In Burma, there is no special organization to assist small scale industries. However, under the Ministry of Industry, there are nine Industrial Directorates that co-ordinate, supervise and guide, both the state-owned and private industries, big and small. They are (1) The Directorate of Textile Industries (2) The Directorate of Chemical Industries (3) The Directorate of Food Industries (4) The Directorate of Metal Industries (5) The Directorate of Light Engineering Products Industries (6) The Directorate of Heavy Engineering Industries (7) The Directorate of Ceramics Industries (8) The Directorate of Miscellaneous Industries and (9) The Directorate of Paper and Allied Industries. With few exceptions the majority of factories, under the general supervision of these bodies are of small scale type.

### Technical and Management Training rendered for the Development of Small Scale Industries

Although organisations, distinct and separate, to serve the needs of small scale industries as such have not been instituted, there exist technical schools, institutes, colleges as well as vocational training centres spread over the country, designed to produce skilled workers, technicians and qualified engineers.

At the moment, there are 5 technical schools which form the base for successful candidates to join the technical institutes. There are altogether 3 technical institutes offering full time three-year course. Students who passed with high grades are eligible to join the Rangoon Institute of Technology which offers four-year course in specialised fields of Engineering.

For those who can read and write, evening classes for vocational training are being conducted in 5 places, for a duration of 5 months. For those in Government departments, workshops and factories evening classes are being opened at 2 technical high schools at Rangoon and Mandalay offering 3 to 4-year courses in civil, mechanical and engineering subjects.

At a higher level, these subjects are taught at the evening classes of the Technical Institute at Insein for a period of 3 years. Other vocational training courses of interest are spinning and weaving training and one in lacquer training. Technical and vocational education is also provided by 69 technically biased High Schools while handicrafts along with the usual subjects, is taught at the 300 primary schools. As the vocational training centres have proved very successful in producing skilled labourers and technicians, the Directorate of Technical Education has plans for the expansion of such centres in the near future.

As for managerial training for junior officials of Government departments and State-owned factories, big and small, diploma part-time courses in management are being conducted at the Economics Institute of the Rangoon University. The Ministry of Industry has under it a training centre which provides management training to supervisory personnel of the factories, to all levels of clerks and junior officials engaged in State-owned and nationalised factories.

**Export Promotion**

In a situation where most of the developing countries are confronted with balance of payments difficulties owing to the decline in prices of traditional primary exports, there are increasing attempts at diversification of their exports. Products of small scale manufacturers as well as of handicrafts offer a promising alternative of varying degree of importance to these countries.

In the case of Burma, export possibilities for the products of her small scale industries and handicrafts are as yet of limited importance. The task for the promotion of local products is being handled exclusively by the Myannma Export and Import Corporation (MEIC), which maintains direct business contacts or through appointed agents and commercial attaches with prospective buyers. On the basis of information and market intelligence gathered through these channels, the Export Promotion Division of MEIC, got in touch with local producers for the supply of raw materials and execute a contract pertaining to specification, quality, quantity and time schedule of delivery.

One other promotional activity MEIC is engaged in, is the active participation in the various Trade Fairs held from time to time in many parts of the world. Exhibits at the Trade Fairs are largely confined to products of handicrafts industries with their characteristics Burmese art and culture. Prominent among these exhibits are silverwares, ivorywares, bronzewares, leather slippers, parasols, tobacco pipes, lacquerwares, wood carvings, bamboo and cane-products and handloom textile fabrics. Owing to the relentless efforts being made in this direction, a marked increase has been registered in their sales volume and quality improvements from year to year.

## CYPRUS

Cyprus is the third largest island in the Mediterranean with an area of 3,572 square miles and a population of about 630,000. It became an independent Republic in mid-August 1960. Manufacturing is one of the most important sectors of the Cyprus economy. In 1969, it employed about 36,000 persons or 13% of the economically active population, contributed £21 million or 12% to the Gross Domestic Product and exports of manufactured goods amounted to £8.5 million or nearly 20% of domestic exports.

Nevertheless, industrial development in Cyprus is of recent origin and due mainly to private initiative. Some of the factors which have contributed to the slow rate of development in the industrial sector as compared with other sectors of the economy are the smallness of the local market, the limited supply of raw materials, the development of a lucrative import trade (which *inter alia* had the effect of conditioning the Cypriot consumer to foreign goods), the existence of opportunities for more remunerative forms of investment (e.g. in real estate), the lack of enterprising initiative in the industrial sector and the relatively low standard of technical training. It would undoubtedly be unreasonable to aim at the conversion of the Cyprus economy into a full industrial one. There are some branches of industry, and particularly of heavy industry, requiring special conditions of development which must be excluded from the start. Great possibilities, however, exist for the development of small and medium industries in Cyprus.

The period 1960-70 has seen the expansion and establishment of the majority of industries operating in Cyprus. Most of these industries are producing consumer goods and cater mainly for the local market. This is due to the fact that these industries were established with the sole aim of import replacement. Imports to Cyprus are twice its exports and account for half of its national product. Owing to the very limited number of attempts made in the past to engage in a serious export effort and the fact that the Cyprus market is rather small it is obvious that the majority of industries operating in Cyprus are of the small and medium type. Manufacturing industry in Cyprus is still characterized by the predominance of the small productive unit, averaging only 4.6 persons per establishment according to the 1967 Census of industrial production. In 1967, 19% of the manufacturing output was produced by 33% of the manufacturing labour-force in establishments engaging under five persons each. The trend, however, is for bigger productive units. The corresponding figures in the 1962 Census were 3.1 persons per establishment with 22% of output produced by 51% of the manufacturing labour-force engaged in establishments with less than five persons. Furthermore, during 1962-67 there was a substantial decrease in the number of industrial establishments. In the 1962 Census of Industrial Production, there were 8,782 establishments compared to 6,333 in the 1967 Census. The decrease is mainly due to the closing of small unproductive and incompetent units and the expansion and setting up of bigger firms. The main industries affected were shoe-making, dress-making, food industries (chiefly flour-making and olive-oil pressing) and non-metallic mineral products.

An attempt to distinguish between small and other types of industry involves a great deal of arbitrariness. Most industries in Cyprus are simultaneously carried on in small, medium and, in a number of cases, in large factories as well. The Government Statistics and Research Department classifies establishments engaging, on the average, less than five persons as small scale industries.

In Cyprus, however, we do not have a hard and fast rule of distinction between small and large scale industry. The tendency is to regard small industries as those that continue to operate under traditional conditions using handicraft rather than mechanized methods of production and which have upto a certain extent made use of modern science and technology but operate on a small scale both from the point of view of employment and output. The latter may be named as the modern small industries.

The first category comprises cottage industries or handicrafts industries whose origin in most cases goes many years back. Recent years have seen a great deal of these traditional industries giving way to the modern small industries. Cyprus was once rich in cottage industries. Among the traditional cottage industries of Cyprus which have survived until now are lace and embroidery making, handloom weaving, pottery, basket making and bee-keeping. The main characteristic of these industries is that they are carried on on a part-time basis mostly at home in rural areas. Cottage industries are in most cases carried on without the use of mechanical power or machinery. To be able to survive competition from large scale industries these cottage industries have in most cases limited their range of products to artistic handicrafts which are in demand today. It is estimated that about 3,000 persons, mostly females, are engaged in cottage activities and their contribution to the Gross Domestic Product amounts to about £ 200,000 (in value added) yearly. Until recently, cottage industries were dominated by merchants and middlemen who advanced capital or supplied the raw materials but also dictated their own terms of payment. With the recent organization, at the Government's initiative, of cottage industry co-operatives, the question of production, pricing and marketing is being placed on a better basis.

The second category comprises both the artisan industries and those industries which, although having upto a certain extent modernized their organization and methods of production, continue to operate on a small scale. The Table below indicates that this category continues to be of primary importance to the Cyprus economy. The variety of industries falling under this category extend from shoe making, tailoring and dress making, bread making, pastry making, carpentry and cabinet making and automobile repairing to the small industries producing for the home market such goods as ice cream, macroni, metal furniture, wire nails and plastic and aluminium household utensils.

TABLE

**Classification of Manufacturing Concerns According to Their Number of Employees**

| Persons employed | No. of firms | % |
|---|---|---|
| Less than 5 | 4,777 | 82.4 |
| 5—49 | 951 | 16.4 |
| 50—99 | 42 | 0.7 |
| 100—499 | 29 | 0.5 |
| Total number of manufacturing firms existing in Cyprus | 5,799 | 100.0 |

Modern small industries and artisan industries are carried on (a) in small factories by the manager or owner working singly or assisted by a small number of workers or by family members—(some degree of division of labour is apparent in these industries) and (b) in small workshops by craftsmen working singly or with family members or apprentices—(division of labour is almost insignificant). In most cases, small industries are singly owned. The owner is himself employed directly in the manufacture or processing.

Simple machinery e.g. domestic sewing machines and hand tools are used mainly by artisan industries. In the case of the modern small industries the use of mechanical power is extensive. Two sources of energy are mainly used: electricity and liquid fuel. The machinery used by the modern small industries is in most cases of recent origin and of modern design. Although the general level of techniques, productivity and operational efficiency is in the case of modern small industries satisfactory, it is generally accepted that these industries can improve their productivity by a better organization of production process, a more rational plant lay-out and the employment of more efficient labour.

The Cyprus Government's policy in the industrial sector is to create a climate conducive to the development of private initiative and the attraction of foreign capital and technical know-how by such infra-structural works as the expansion of electrification, communications, water development and port development, by the grant of tax incentives and technical training. The main objectives of this policy are the creation of additional employment opportunities, the better utilization of indigenous raw materials and the reduction of the external trade deficit (Cyprus imports in 1969 amounted to £86.5 million against total domestic exports of £39.5 million) through import substitution and exports of locally manufactured goods.

The Ministry of Commerce and Industry is the Government department responsible for the promotion of industry in general in Cyprus, including small scale industries. The Research and Industrial Development Section of this Ministry is being reorganised with a view to being able to pay particular attention to the problems of the encouragement and expansion of small industries. No distinction is made in Cyprus in the treatment of small and other industries. In consequence, Government measures of encouragement and development apply equally to small as well as other types of industry.

The services extended to industry by the Ministry of Commerce and Industry at present include (a) the initiation and introduction of measures of encouragement and protection as well as incentives aiming at the expansion of existing industries; (b) surveys with the help of foreign consultants or UNIDO experts designed to identify new industrial opportunities and barriers to industrial development; (c) promotional campaigns to disseminate the findings of such surveys and to bring industrial opportunities to the notice of local and foreign potential investors; and (d) advertising of Cyprus products both at home and in overseas markets. At the moment of writing, a UNIDO expert has been assigned to the Ministry of Commerce and Industry to draw up a programme for the establishment of a suitable extension service which will provide small industrialists assistance in the technological, marketing and other fields.

There is no special law in Cyprus for the encouragement of prospective investors, local or foreign. Tax incentives are provided principally under the Cyprus Income Tax Law. All available incentives and concessions are enjoyed by both local and foreign firms operating in Cyprus on the basis of non-discrimination. The Income Tax Law has recently been amended and now provides for lower income tax rates and higher allowances to individuals as well as a number of tax incentives designed to encourage investment in industrial projects.

The Cyprus Customs Tariff is amended from time to time in order to give protection to industries which have been found to have good prospects of becoming competitive. Existing legislation also provides for the regulation of imports and the imposition of quantitative restrictions for the purpose of affording protection to local production. The Government's view, however, is that no industry should be dependent on protection to the prejudice of the consumer and that, given a limited period of protection (if needed), local industries should become competitive with imported goods. Under the Customs Tariff, practically all plant and machinery are imported duty-free and provision is also made for the reduction or exemption of import duty on raw materials, components and other goods used in the manufacture of the finished product. The Cyprus Development Bank has been established by the Government in 1963 in order to provide medium and long-term loans at reasonable rates of interest for economically and technically sound industrial projects. The Bank also extends technical assistance to industrial enterprises.

In order to meet the growing needs of industry for managers and skilled personnel, the Cyprus Government has given special attention to industrial training. The Cyprus Productivity Centre was established in 1963 as a joint project with the United Nations Development Programme, with the primary aim of promoting a rapid and significant increase in productivity by providing technical training to workers in industry and training in the techniques of modern management to supervisors, foremen and managers. Furthermore, a Higher Technical Institute was established in 1968 as a joint project with the United Nations Development Programme. The purpose of the Institute is to train high grade mechanical, electrical and civil engineers for the needs of industry in Cyprus. Two types of technical schools have also been established in Cyprus. One type provides vocational training and aims at supplying local industry with skilled workers and craftsmen and the other type provides technical education and training supplying the industry with technicians. Finally, an Apprenticeship Training Scheme was established in 1963 with the objectives of upgrading the skills of young workers in industry and increasing the number of skilled workers in industry in order to meet the acute demand for them.

In order to satisfy the land requirements of small and medium size industries in urban areas, the Government established industrial estates in Nicosia, the Capital and in the towns of Limassol and Larnaca. These estates, which are administered by the Ministry of Commerce and Industry, provide factory sites with the essential services and facilities and are offered for lease at reasonable rentals for 99 years. Industrial estates have proved successful in Cyprus in encouraging industrial development and the Government intends to establish similar estates in other areas. Besides the leasing of developed factory sites within the industrial estates, the Government has embarked on a scheme to provide leasehold factory buildings for the accommodation of small scale industries.

In line with the policy of encouraging export industries, the Government intends to establish free port zones in which industry will operate without the usual Customs formalities. It is expected that this measure will stimulate joint ventures with foreign companies. The Government is also considering the establishment of a Standards and Quality Control Institute to assist local industries in their efforts to improve the quality and standard of their products. This appears to be an urgently needed innovation which is expected to enhance the ability of the local industry to break through both in the local and foreign markets.

Special emphasis is also given by the Ministry of Commerce and Industry for the promotion of exports of manufactured goods. In this respect, goods manufactured in Cyprus are advertised in the United Kingdom which is our main customer, and various other European countries through the following media: press and television publicity, participation in international fairs and exhibitions, visits to Cyprus of overseas buyers and writers of newspapers and trade magazines. Furthermore, the Ministry organises trade missions to various countries abroad to investigate overseas markets, and makes arrangements for the research of markets abroad and keeps Cypriot manufacturers and exporters informed of the interest of foreign importers in Cyprus goods as well as any other matters which may affect the export trade of Cyprus such as change in tariffs, quantitative restrictions, etc. Finally, the Government amends from time to time the existing Drawback Regulations or enacts new regulations so that duties paid by manufacturers on imported raw materials and components used in production may be refunded on the export of the goods.

The Ministry of Commerce and Industry is also responsible for the encouragement and development of cottage industries. In this connection, the Ministry has in the past provided loans at low rates of interest to craftsmen and handicraft establishments for the purchase of equipment and raw materials. A Cyprus Handicraft Organisation has been established to conduct a permanent exhibition for Cyprus handicraft items in Nicosia, and to exhibit at overseas exhibitions and fairs in order to promote exports from the country. It is also proposed to establish an experimental multi-purpose workshop for the training of designers and craftsmen.

## GHANA

### Concept and Definition of Small Scale Industries

In the past, there had been no legal or generally accepted definition of "small scale"as applied to industrial or other entrepreneurial establishments in Ghana. The definition of less than 10 persons engaged was adopted in the "Area Sample Survey of Small Manufacturing Establishments" in 1963. However, the Government decided that small scale industry be defined as a manufacturing or processing establishment employing not more than 30 workmen using motive power; having fixed capital investment not exceeding NC 100,000 or £50,000 and holding no monopolistic position or being otherwise dominating in its field or operation. In December, 1969, the Government of Ghana in a Decree No. 323 defined a small scale enterprise as any enterprise engaged in extractive, processing, manufacturing business or in any approved business, employing 30 persons or less (including working proprietors) and requiring simple production or operational techniques and/or with a fixed capital investment of £50,000 or NC 100,000—One hundred thousand New Cedis or less.

### The Place of Small Industries in the Country's Economy

In the 1963 Area Sample Survey of Small Manufacturing Establishments, a total of 104,000 small manufacturing establishments were covered and these were found to be engaged in the following activities:

Food and Beverages (38,000);
Textiles and Footwear (34,000);
Wood Products and Furniture (13,000);
Metal and Machinery (10,000); and
Miscellaneous (9,000).

Analysed by size, the following figures are shown:

| | |
|---|---|
| Units with one person engaged | 62,000 |
| Units with 2-4 persons engaged | 37,000 |
| Units with 5-9 persons engaged | 5,000 |
| Units with 10-19 persons engaged | 1,500 |
| Units with 20-29 persons engaged | 200 |
| Units with 30-49 persons engaged | 150 |

The total number of persons employed in 1963 was 2,509,000 of which 1,505,000 persons were engaged in agriculture. Of the remaining 1,004,000 employed in non-agricultural persuits about 65% were engaged in the small enterprise sector. In the same period, that is 1963, the estimated gross output from manufacturing enterprises in Ghana was equivalent to NC 180 million and out of this total output small manufacturing enterprises contributed ⅓ or about NC 60 million.

It is a long time now from 1963 and the general assessment is that more investment has been made in small scale manufacturing enterprises using basically imported raw materials than in locally produced ones.

**Strategy of Development of Small Scale Industries**

With the establishment of the Industrial Co-operative Society (Ghana) Limited, in 1959, popularly known as INDUSCO, which became the apex body to co-ordinate the activities of national organisations such as the Trade Union Congress, United Ghana Farmers Council Co-operative, Labour Co-operatives, and small handicraft and mechanical enterprises, Government gave out loans through this body (INDUSCO) for the establishment of five oil-extraction enterprises, four motor repair workshops, one stone querry, one jute-bag factory, a bakery, carpentry workshop, five rice mills, one garment, six rattan, four coir fibre and three bamboo processing factories. In July, 1961 INDUSCO was re-named Ghana Rural Industries Limited and was made a subsidiary of Ghana Industrial Development Corporation; the latter took on the vestiges of holding corporation. In April, 1965, a new Ministry of Rural Industries took over responsibility for coir fibre, rattan and bamboo projects and outlined a programme for their development together with the establishment of further enterprises for which local raw materials were available. In February, 1966, the Ministry of Rural Industries was abolished as part of the retrenchment and reconstruction programme of the new Government and responsibility for those industries passed back to the Ministry of Industries. In 1967-68 Government decided that all these projects commenced by the defunct INDUSCO should be sold to private interests.

It will be observed from the foregoing account that at least a few schemes were initiated in Ghana with the object of assisting the development of small scale Ghanaian enterprises purely in the form of loans, but a number of these schemes failed for a number of reasons.

For instance, the Small Loans Scheme did not have any really effective economic research assistance to ensure that loans were to be invested in viable projects, nor was it allied by any management training scheme to ensure an understanding of marketing or business management; and in the other instances there were training schemes which did not provide for financial and other assistance to enable the trainees engaged in business to apply training techniques acquired.

Besides, loans being granted to quasi-Government institutions to establish small scale industries, private Ghanaian businessmen received a fair share of Government loans almost all of which have lapsed into debts.

The overriding reason for the failure of the various schemes which were initiated was that they tried to spread the benefits, which they prescribed too widely and too thinly, with the result that they dealt with specific problems only and did not have any integrated approach to development.

In view of the experiences which have been briefly outlined above, it is now intended to place strong emphasis on the promotion and development of small scale enterprises, both as a means of developing the rural areas and also as a means of developing the extractive industries, principally using local raw materials wholly or partially processed for local consumption and for export. This programme, therefore, calls for the formulation of certain policy decisions which the Government is now pursuing: i.e. the placing of plant, machinery and equipment necessary for the establishment of industries on Open General Licence; the construction of feeder roads to facilitate easy transportation of raw materials to centres for processing; the creation of TASK FORCE, a wing of the Ministry of Agriculture to enable easy distribution of food and other items of raw materials at low cost to consumers; the institution of credit financing arrangements on more liberal terms to Ghanaian businessmen; also offers for the establishment of small scale industrial training centres, which could create an impact on the promotion of small scale industries and the establishment of industrial centres to train Ghanaian technicians and to produce prototype products on the local markets, have been accepted and some are in the process of implementation.

### Organisational Set-up of the Government for Assistance to Small Scale Industries

(a) The main function of the National Investment Bank (NIB) is to assist industrial, commercial, agricultural and other enterprises by granting medium and long-terms loans with adequate guarantees. The Bank through its technical department known as the Development Service Institute assists local and foreign entrepreneurs in establishing and operating industrial enterprises by conducting economic surveys, market and technical feasibility studies of proposed projects as well as assisting in the presentation, establishment and operation of projects. In addition, the Institute carries out continuous researches into sectors of the national economy with a view to identifying fields of investment opportunities and disseminating the results of such research so as to stimulate the interests of foreign and local investors to invest in such enterprises. The services in relation to feasibility and viability studies are available against payment for the services provided in compiling and studying the data. So far as the functions of the National Investment Bank is concerned, the small scale business investor could avail of these facilities except that he cannot obtain a loan since the National Investment Bank scheme only applies to borrowers with minimum requirements for additional capital of NC 10,000 or £ 5,000.

(b) In October, 1967 the Government of Ghana signed a plan of operation with UNDP and ILO and the Management Development and Productivity Institute to fulfil the following objectives:—

(i) the introduction of suitable products and techniques to promote increased productivity;

(ii) the improvement and development of the standard of management in all aspects in the country.

These include the organisation of training, conferences and seminars for personnel from all sectors of industry, including small scale enterprises, in the fields of general management, industrial engineering, financial management, accounting, marketing, sales, etc; the provision of advisory and consultancy services to all sectors of industry on the solution of problems concerning the raising of productivity and efficiency; carrying out of studies, enquiries, research in the field of management development and productivity in co-operation with industry and organisation with related interests.

(c) The National Standard Board sets out to establish and to promulgate standards with the object of ensuring high quality in goods produced in Ghana, whether for local consumption or for export; to promote standardisation in industry and commerce; to promote industrial efficiency and development; and to promote public and industrial welfare, health and safety.

(d) The Ghana National Trading Corporation, a wholly Government-owned trading concern is considering stocking small plants, tools and equipment, ideal for the establishment of small scale industries.

(e) The University of Science and Technology, in Kumasi is using its Faculty of Engineering to useful advantage by carrying out researches into the establishment of low-cost factories for the production of certain prototype goods and also the teaching of proper techniques for the establishment of small scale industries.

(f) The Ghana Commercial Bank with its numerous Branches throughout the country has now adopted a more liberal attitude towards the granting of loans for the establishment of industries generally and have also established a Division for the appraisal of industries.

(g) Policies were framed, which give general directives on dispersal of small scale industries and the problems and well being of these industries are looked after the Small Scale Division of the Ministry of Trade, Industries and Tourism.

### Economic Investigation and Information Service

The dissemination of information and economic investigations services are unfortunately not centralised. The National Investment Bank, the Capital Investments Board, the Banks—Central Commercial, the Ministry of Trade, Industries and Tourism, and the Industries Division in particular offer such services. The Industries Division also undertakes Sector Studies and advises prospective industrialists on which sectors there are investment opportunities.

### Technical and Managerial Assistance rendered for the Development of Small Scale Industries

The Productivity Institute organises courses in practice and techniques to promote increased productivity, improvement and development of the standard of management in all aspects of industry; provision of consultancy services to all sectors of industry on the solution of problems in industry; carrying out of studies; enquiries, research in the fields of management development and productivity in co-operation with industry and organisations with related interests. There is also the Institute of Public Administration which is modelled on the same lines as the Productivity Institute.

Technical assistance and training can be obtained from the Canadian Government Trade Training Centre which provides part-time instructions to artisans workers already employed in the fields of welding, fitting, electrical and mechanics. Government has also established polytechnics and secondary technical schools for giving formal technical training to students who have to qualify for the City and Guilds Examination.

### Credit Facilities

The financal institutions which are now or might become involved in granting credits to small scale industries in Ghana include

(a) Standard Bank of West Africa;
(b) Barclays Bank D.C.O.;
(c) National Investment Bank;
(d) The Bank of Ghana (Central); and
(e) The Ghana Commercial Bank.

Apart from these institutions, some overseas credit financing companies have been offering credits for capital goods with adequate local bank guarantees.

### Management and Technical Training for Small Industries

The Productivity Centre, Institute of Public Administration, in service training in a few well-established foreign industries and joint State/Private Industries (VALCO ALUMINIUM CO) offer excellent courses and practical training in management and technical training in the industrial field generally.

Also the pattern of establishing some of the industries which still persists is that the Ghanaian businessman on procuring plant, machinery and equipment from abroad often contracts with the suppliers for the service of a technician for the installation and running of the factory for some time and for the training of local personnel, therefore, injecting some measure of technical know-how.

### Industrial Estates

One of the offers from foreign Governments Technical Assistance aid scheme is in the form of plant, machinery & equipment for the establishment of industrial estates and the offering of extension services to small scale industrial establishments and the upgrading of skills of local technicians; this is a novelty which has been accepted in principle by the Government. The Centre will be established as soon as the details are worked out.

### Auxiliary Industries Development

Besides the number of small scale industries established mostly in the private sector, there are a number of medium and large scale industries whose existence to some degree depend on supplies from the small scale industrial establishments. With comparatively low production costs, their items of output are cheaper than those produced by the medium or large factories themselves. A typical example of this is the small scale timber sawing factories supplying the big furniture factories with sawn lofa; also machine shops which require screws, bolts and nuts. Ghana sees a great future in this which could lead to small scale industries expanding with the use of more sophisticated and precision machines in order to feed larger industries with cheaper parts.

### Marketing Assistance Programme

An effective distribution depends on the channels through which the goods flow and the following are the main channels of distribution:

1. The main Distributing Firms;
2. Departmental Stores;
3. Agency Distributors; and
4. Small Retailers including Passbook customers.

A Bill on Distribution of Goods which can give the Ministry of Industries the necessary power to improve the distribution of goods generally in the country was drafted in 1965. The bill makes it obligatory on importers, manufacturers and wholesale dealers to provide information on their distribution programme to the Ministry and it empowers the Ministry to vary the programme in the interest of the public. However, the Ministry is now collecting advance information on imports and output of manufactured articles to enable it to be in a position to control distribution of certain items of goods with the aim of making distribution of manufactured goods more effective.

### Export Promotion

The Government has set up the Export Promotion Department, which is a Division of the Ministry of Trade and Industries to plan export strategy in the form of product development, i.e. quantitative and qualitative control of production, pricing, and establishing demands on distribution locally. Trade Fair Exhibitions, and Trade Agreement/Pacts are other effective means of promoting Exports Overseas. The scope for the manufacture of products on small scale basis, however, is rather limited, because of the concentration on the local markets, with the exception of those products which are of high demand abroad.

Besides these, Government gives incentive for export in the form of rebate on total liability to company tax for manufacturers exporting at least 25% of their total production. Quite recently, the Ghana Export Company and the Ghana Export Promotion Councils have been established. The latter made up of members of the Association of Ghana Manufacturers is for the purpose of selling 'made in Ghana' goods overseas and offering advice to manufacturers generally.

### Standardisation and Quality Control

The National Standards Board was established by a Decree in August, 1967. Its functions are:

(a) to establish and promulgate standards with the object of ensuring high quality in goods produced in Ghana whether for local consumption or for export;
(b) to promote standardisation in industry and commerce;
(c) to promote industrial efficiency and development; and
(d) to promote public and industrial welfare; health and safety.

Activities of the National Standards Board are:

(a) Establishment and publication of National Standards, and
(b) Quality control of products of Ghanaian industry.

The Board has programmed the introduction of a certification and marking scheme. Certification and marking schemes are used by the Standards organisations of many countries to provide assurance of quality to the consumer on the one hand and an encouragement for continued production of good quality products to the manufacturers.

Several standards have been approved as Ghana Standards and these include hardening cement, aluminium building sheets, toilet soap, carbolic soap, etc.

## IRAN

### Concept and Definition

In furtherance of the policy of giving a wider role to the private sector in the industrial development of the country, the Government of Iran have announced their decision to give full encouragement and support for the establishment of viable new small scale industries by private entrepreneurs in different parts of the country and for the modernisation and improvement of the efficiency of the existing small industries. A small scale industry is defined as one with investment in machinery and equipment of not more than 7.5 million rials.*

In a policy statement issued by the government in September 1970, the government have recognised the importance of the role of small scale industries in strengthening and diversifying the country's industrial structure. Among the objectives laid down for the development of small scale industries in Iran, special importance is given to their role in providing new avenues of employment, facilitating industrial decentralisation and stimulating indigenous entrepreneurship.

### Organisational Set-up

The government set up in 1963 an Industrial Estate Authority as the principal agency for the planning of industrial estates in different parts of the country and for the establishment and operation of a demonstration estate at Ahwaz. Very soon, it was realised that the establishment of a demonstration industrial estate by itself will not be adequate for promoting the growth of small industries or for the establishment of successful estates elsewhere, and that more comprehensive programmes of assistance to small industries were necessary. It was recognised that the basic task was the stimulation of interest among indigenous entrepreneurs for starting new modern small industries and improving the efficiency of existing ones and that the industrial estates programme will be effective as a tool for development of small industries only if it was integrated with other development programmes. The government accordingly decided in 1968 to replace the Industrial Estate Authority by a new organisation called the Organisation for Small Scale Industries & Industrial Estates of Iran (OSSI & IEI) with wider responsibilities for development of small industries and establishment of industrial estates.

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* 1 US Dollar=approx. 75 rials.

The Charter of the OSSI & IEI lays down the following functions for the Organisation:

(a) To carry out a continuous review of all aspects of the status of small industries with a view to uncovering and solving any relevant problems and to put the findings of such investigations at the disposal of government authorities, credit institutions, chambers of industry, etc.;

(b) To draw up annual and other short-term plans for the development, improvement and assistance of small scale industries within the framework of the National Development Plans;

(c) To assist workers, specialists and supervisors in small scale industries to improve their skill in appropriate fields by preparing and implementing training programmes for 'on the job' application and by providing suitable means whereby these individuals may derive the greatest benefit at the lowest cost from the Technical Training Institutes of the Ministry of Labour and Social Services and of the Ministry of Education, the Chamber of Industries and Mines and other appropriate bodies;

(d) To provide appropriate consultancy services to meet the needs of small scale industries and to draw up suitable plans and prospects;

(e) To develop and extend research programmes suited to the needs of small scale industries;

(f) To use all possible means of facilitating the purchase of materials, machinery and equipment by the use of domestic credits provided by foreign vendors under the appropriate regulations;

(g) To establish and expand industrial estates and to provide them with all necessary equipment and other installations and to encourage small scale industries to settle on the estates and to make use of the facilities;

(h) To extend the use of industrial co-operatives for buying, selling and production purposes and to provide loans for these;

(i) To give guidance and assistance to small scale industries in the marketing of their products, particularly in regard to the design, standards of quality and any other aspects needed to increase their sales;

(j) To take all necessary steps to improve the quality and productivity of small scale industries as well as their development;

(k) To encourage private investors by advice on the use of domestic and foreign credits and of long-term credit facilities made available by machinery manufacturers, suppliers of materials and buyers of the products in question and by assisting these private investors in obtaining internal or foreign loans.

### U.N. Assistance for Small Industries Development

The Government of Iran have been receiving assistance from the UN Special Fund in their programmes for development of small scale industries and establishment of industrial estates. A UN Special Fund Project for the planning and establishment of the demonstration estate at Ahwaz has been in operation from 1965. The UN assistance consisted of supply of the services of a team of international experts, machinery and equipment for the Central Services Workshop at the Industrial Estate, Ahwaz and fellowships for the training of Iranian officers. The Central Services Workshop at Ahwaz consists of a machine shop, a foundry and an electroplating shop.

UN assistance to the Government under the Special Fund Project has been extended till the end of 1971 and the scope of the project has also been widened to cover assistance in the formulation of proper policies and programmes for the development of small scale industries including industrial extension service and credit facilities. The UN Special Fund team assisting the OSSI & IEI includes a project manager and chief adviser, an industrial economist, an industrial engineer and experts in tool & die design, machine shop practice, foundry, electroplating, marketing, lens-grinding, cost accounting, etc.

### Assistance Programme for Small Scale Industries

The assistance programme for small industries has been organised under five divisions in the OSSI & IEI viz., Economic Studies & Planning Division; Industrial Development Division; Industrial Management and Training Division; Financial Assistance Division; and Industrial Estates Division.

The Economic Studies & Planning Division is responsible for conducting industrial surveys, area surveys, feasibility studies for specific industries and the collection and maintenance of statistics. It undertakes the publication of model schemes and of a quarterly newsletter for the benefit of small entrepreneurs. It has recently completed a comprehensive study on lensgrinding industry in Iran on the basis of which new small industrial units in lensgrinding in different parts of the country are being promoted. It is presently engaged in a similar study on automobile ancillaries and components.

The Industrial Development Division provides technical guidance to existing small industries as well as to prospective entrepreneurs in engineering and non-engineering trades. The planning of new industries by this division is done in close co-operation with the Economic Studies & Planning Division.

The Industrial Management & Training Division organises extension service in management, marketing and cost accounting. As part of the extension service, special trainig courses are being organised for the managers and workers of small industries.

Financial assistance to small industries in Iran is provided by public and private banking institutions. The OSSI & IEI assists small entrepreneurs in sponsoring applications for loans and in conducting enquiries on behalf of the banks regarding the credit-worthiness of the applicants.

The OSSI & IEI is planning a comprehensive study on the credit requirements of small industries in the country. It is expected that schemes for more liberalised credit facilities will be introduced as soon as the recommendations of the study become available. The introduction of a scheme of assisting small entrepreneurs in getting machinery and equipment on hire purchase terms is also under consideration.

The Industrial Estates Division is responsible for the planning of industrial estates in different parts of the country. At present, the OSSI & IEI is engaged in the preliminary feasibility and planning studies for industrial estates at Esfahan and Tabriz. The pattern of organisation of industrial estates would vary from place to place. While standard factories have been provided under Stages I & II of the demonstration industrial estate at Ahwaz, the policy of the OSSI & IEI is to encourage construction of factory buildings by the allottees themselves wherever they are in a position to undertake such responsibilities.

**Industrial Estate, Ahwaz**

The construction of the Industrial Estate at Ahwaz has been planned to be completed in three stages. A plot of over 200,000 sq. metres has been developed for the Estate Project and is provided with water, electricity, drainage, roads, gardens, etc. Under Stage I, 15 worksheds providing covered factory accommodation of about 8200 sq. metres have been constructed along with ancillary buildings for administration, guest house, bank, post office and the central services workshops. All the worksheds have been allotted and production has already commenced in most of them. Among the items which are produced by the small industries in the Estate are wood screws, metal furniture, refrigerator cabinets, paper conversion products, neon signs etc.

The construction of six super blocks providing covered factory accommodation of about 7500 sq. metres under Stage II of the Estate Project has been completed. A feasibility study for the selection of industries suitable for location in the Estate has been made and applications are being invited for allotment of the new worksheds. It is expected that in about a year's time the Estate Project with about twenty-five modern small industries and common service facilities in machine shop practice, foundry and electroplating would become fully operational.

It is not proposed to provide ready-built factory accommodation under Stage III of the Estate Project. Prospective entrepreneurs will, on the other hand, be allotted developed plots on which they can construct their own factory buildings, provided they conform to the specifications and designs laid down by the OSSI & IEI.

**Ancillary Industries Development**

The extensive programme of industrial development in the large scale sector has opened up new opportunities for small scale industries to undertake a variety of processing and finishing operations and to produce components and parts for the large industries on sub-contracting basis. Special priority is being given to the promotion of new small industries in complementary relationship with large industries.

Tabriz is one of the major large industry complexes in the country. Large production units for machine tools, agricultural tractors and diesel engines are being set up in Tabriz and this has provided good scope for the establishment of small scale ancillary industries. A feasibility study is now being undertaken to identify the items which can be supplied by small units to the large industries in Tabriz. It is proposed to set up the new ancillary industries in an industrial estate which will be established in close proximity to the large industries. Under the proposed scheme, the large industries will be providing technical supervision and guidance to the ancillary units.

The OSSI & IEI proposes to establish similar ancillary industrial units in other major industrial centres as well.

# SENEGAL

THE development, or more exactly the creation, of a small and medium Senegalese industry constitutes one of the priority objectives of the Third Plan.

Actually, except in the field of construction and public works, indigenous Senegalese industry exists only in an embryonic stage and this poses evidently an obstacle to socio-economic equilibrium of the country.

But why talk of small and medium industry and not of heavy industry, which apparently constitutes a more "noble" objective?

We believe that in this field we should be very precise and very sincere; the experience of all the developing countries shows that in practice creation of big industrial units demand technological and financial elements, the sources of which are still to be found abroad.

If the creation of such units remains necessary because they offer employment to many, it must also be accepted that in the present circumstances these units cannot be Senegalese but in name, centres of decision-making and orientation continuing to be in foreign countries.

A realistic programme of promotion of indigenous industry must therefore necessarily contain a first phase of creation of a network of small and medium scale industries.

Being aware of this necessity, the Government of Senegal has set up the National Society for Industrial Studies and Promotion (Société Nationale d'Etudes et de Promotion Industrielle—SONEPI), whose principal purpose is aid in the creation of these industries and to accelerate the process of their development.

Right from the first practical studies it made, the SONEPI has concluded that contrary to a widely accepted opinion, there was in the cottage industry sector and in the commerce, a sufficiently large number of people, having the capabilities to become successful industrialists, whose efforts, however, were blocked by several fundamental obstacles which are practically impossible to surmount, if new facilities are not provided for:

1. Industrial management training;
2. Advance studies of equipment projects (in close collaboration with their promoters);
3. Financial aid to selected projects (as the majority of small entrepreneurs do not have the necessary capital);
4. And lastly, direct assistance to the enterprises for organisation and management of the enterprises, and in respect of technical problems of manufacture, which constitutes the necessary follow-up action after the first four steps.

It would seem useful to examine succinctly these four points and the facilities which have been provided by the SONEPI with the support of the Government of Senegal and the results which one could expect from this initiative.

**Management Training**

Almost all of the Senegalese craftsmen and businessmen, from among whom must come the industrial entrepreneurs, are often ignorant of the obligations which management of a modern enterprise entails.

As a result, they make mistakes continuously and are moreover unable to take advantage of possible aid from those whose advice and aid they need (expert accountants, and bankers especially).

It was therefore necessary to provide training courses meant for potential small entrepreneurs, as has been done in collaboration with the Centre Interprofessionnel de Formation et de Perfectionnement du Personnel d'Encadrement du Sénégal—CIFPPES (Interprofessional Centre for Training of Executive Personnel of Senegal). Till now four courses have been organised and about forty entrepreneurs trained.

This promotional measure has evoked a great interest among the small Senegalese businessmen. The interest shown during the training courses is evident and those who have participated in the later courses have decided, without the idea being suggested to them, to form a small association, namely, Association for Management of Senegalese Enterprises, with a view to maintaining the connections developed during their common work so that they could later on continue to aid each other and keep up the "management spirit" by periodical exchange of ideas and experiences.

### Advance Study of Equipment Projects

Many mistakes of orientation have been committed because the small industrialists have not learnt to envisage and calculate adequate financing of investments they need. These initial mistakes are often at the root of failures that one sees. It was therefore necessary to give an opportunity to the investors to plan their projects with the aid of technicians. This has been done in the SONEPI, where about 50 projects of establishment or extension of small industrial units have been thoroughly examined. This examination has led to the establishment of a scale of programmed investment and costing of planned manufacture, of which the investors have need in order to take their final decisions.

### Financial Aid to Selected Projects

The majority of the small entrepreneurs, whom the SONEPI wants to interest in industry, do not have but a very small part of the cash capital necessary for the financing of the programmed investments.

In particular:

- purchase of land and construction of a workshop (generally the small Senegalese enterprises function in decrepit premises in the urban area which are not suitable for organisation of mass production)
- purchase of additional capital equipment
- financing of a permanent stock of raw material and finished products.

This lack of cash capital makes all medium term bank loans impossible.

The SONEPI has therefore established, with the assistance of the French Aid and Cooperation Fund and the Central Fund for Economic Cooperation, a Participation Fund and a Guarantee Fund, which would help to solve the problem of lack of cash capital.

The Central Bank of West African States has also welcomed this step and has expressed its intention to participate in these funds.

We are of the opinion that in view of the meagre means of our entrepreneurs, it would be necessary to make available to them facilities for instalment-purchase or hiring of capital equipment. We are therefore examining the possibility of establishing a Hire purchase company or a Hiring company.

### Productivity

The SONEPI has established a small Productivity Consultancy service consisting of a UNIDO expert engineer and a Senegalese engineer, who will be in charge of direct assistance to selected enterprises. Each one of these enterprises will be visited twice monthly by one of these engineers who will give it all advice necessary: advice regarding techniques of organising the workshops and utilising the material, advice regarding management (accounting, stocks, commerce, etc.)..

Thus the training given to the entrepreneurs will be followed up and at the same time, a greater security in the utilisation of funds loaned to the enterprises assured.

Because of these new measures, it seems possible to envisage by the end of the Third Plan, the creation of about 30 enterprises in the industrial sector.

If this objective is attained, the very structure of the industry in Senegal will be profoundly changed. Indigenous industrialists will then have a much larger part (about 25%) in the national production establishment which will facilitate to a great degree later on, dialogue between the national and foreign communities and concerted action.

Thus the process of development will begin, which must finally result in a progressive change of this sector of the economy.

It is however necessary to take full cognizance of one point: if new facilities for promotion have been established, if a new will has been developed, if much work has already been, what remains to be done calls for great defforts. This task can only be accomplished with the cooperation of all; Senegalese entrepreneurs who should remember always that nothing is possible without their individual efforts, Government and public organisations which should always mobilise all their means in order to aid in the task and strain their ingenuity in order that the task is accomplished.

The creation of a Senegalese small and medium industry will be the best compensation for this joint work that is called for.

# DISPERSED DEVELOPMENT OF SMALL SCALE INDUSTRIES

# PLANNING FOR PROSPERITY

ACADEMIC controversy, often arid and futile, on the relative merits of small and large scale industries; has lost much of its relevance in the present context of industrial development in our country. Small industrial enterprises have, over the past decade and more, grown into a distinct sector of industry which bids fair to remain an 'important and continuing element' in the economy. If one rupee worth of fixed capital could yield a gross output of Rs. 6.53 (as against Rs. 1.02 in large industry) and contribute Rs. 1.17 to national income (as against 0.29 by large industry), it would be useless to harp on 'economies of scale' as some critics have done.[1] If a free sector of industry, such as small industries are, could account for 90% of the registered factories in the country, it needs no ideological prop as some have sought to provide.[2] To be fair to the critics and the protagonists, it should be said that the criticism of the former and the enthusiasm of the latter very often stemmed from confounding of small industries with household, cottage and village industries. Persistence in this error, even in quarters that ought to know better, is as common as it is unfortunate. Perhaps, the fact that the small scale sector is a 'modern' sector capable of adopting up-to-date techniques of production and management and is as different from the traditional sector as chalk from cheese, needs more systematic and sustained propaganda than has been done so far.

It is a trite saying that the case for small scale industries rests on grounds of economic strategy and social philosophy. With the locational factors, such as those familiar to students of Economics, having no decisive influence, small scale industries are amenable to dispersal. This is of great strategic value but, in the context of planning, this is all the greater from an economic point of view. When planning involves comparatively large outlays on heavy or basic industries and social and economic overheads (or on building up the infrastructure), there is inevitably an increase in incomes and expenditure on consumer goods and services. Experience during the past Plan periods has proved that small scale industries can be depended upon to meet the demand for consumer goods and services in a growing economy. Similarly, nothing has happened to show that the egalitarian ideal, which the country has accepted as part of its social philosophy, is not a valid objective of a policy designed to foster the development of small scale industries. But much more substantial has been the gain by way of creation of employment opportunities. Unfortunately, the achievement in this respect since 1956 seems to have been dwarfed or even obscured by the spectre of unemployment looming large over the country.

Unemployment, particularly of the educated, is an economic curse and a social evil. It may also prove to be a dynamite that blows up to pieces the very society in which it exists. The individual who is unemployed, subject to tensions of all kinds, suffers distortions of personality which may well become incurable. It would be vain to expect him to be consoled with the promise of 'jam to-morrow'. As an U.N. authority observed, "The main purpose of insisting that employment opportunities should be given weight in the choice of alternative paths of economic development is that this is the surest if not the only way of making certain that the improvements in the levels of living, as economic development proceeds, will be widely shared."

The developed countries of the West faced the problem, in the initial stages of industrialisation, not of a surplus but a shortage of labour. An increase in population, despite the gloomy forebodings of the economists of the Classical School, was welcomed as an aid rather than an hindrance to development. Paradoxical as it may seem, in India unemployment is increasing as the economy grows. The only sure and certain way to resolve the paradox and strike at the root of the problem of unemployment is to accelerate the pace of development of small scale industries. Towards this end any number of measures by way of 'catalysts' and 'crutches' would be justified.

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[1] "Capital, Employment, Output Estimates for Factory Sector by Capital Size"—Annual Survey of Industries —1965.

[2] "The Role of Small Enterprises in Indian Economic Development" by P.N. Dhar and H.F. Lydall—"The Decentralised Sector—its True Significance"—article in Yojana (Aug. 5, 1962) by Dr. Gyan Chand.

*The 28th Meeting of the SSI Board was held in November, 1970 at Bhubaneswar*

This view may commend itself for its humanitarian appeal but it may be open to the criticism that it ignores economic principles. The question may be asked if employment opportunities created by small industries are of a *enduring* nature when the tide of technological changes is sweeping the continents. Fears, as these, are groundless if it is remembered that the sector of small industries in India, such as it is, is not an hot-house plant but a natural growth in an environment made more favourable through Government programmes of assistance. As for technological changes, their adoption, far from being an automatic process, has to reckon with many *natural* resistances. "In England the progress of technology proceeded in an essentially step-by-step fashion in a pattern dictated by the prevailing needs and conditions of the country's economy, and the *kind* of technology which evolved was one well-suited both to the natural resources and other factors of production available to England and also to the immediately preceding state of technology out of which it grew."[3] Even the American economy, it is said, "may be actually at the beginning rather than at the end of the period of epochal technological changes."

From an historical point of view, the problems and patterns of growth were never the same in the different countries of the world; if there were certain points of similarity, there were also striking contrasts. India, with its own unique culture and a scheme of values, that applies both to the individual and the society, can be a pioneer in evolving a pattern of economy in which the individual is not ignored in the interests of the society. And in such a pattern, small scale industries, which could not only help in a large measure to tackle the problem of unemployment but maintain human relations on the basis of dignity and self-respect, have a vital and significant place.

The importance of the human factor in economic development has never gone unnoticed by economists even in capital-rich countries. Prof. Milton Friedman observes: "In any economy, the major source of productive power is not machinery, equipment buildings and other physical capital; it is the productive capacity of the human beings who compose the society."[4] Prof. Friedman estimates that only one-fifth of total income in the U.S.A. is the return to physical capital and the rest four-fifths is return to human capital. In other words, the crucial determinants of growth are better organisation and more efficient use of capital and labour inputs—factors more easy of realisation when industries, in which largeness of size results in diseconomies, are organised on a small scale basis.[5]

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[3] Economic Development: Past and Present by Richard T. Gill of Harvard.

[4] Quoted by P.T. Bauer in 'Indian Economic Policy and Development.'

The future pattern of spatial growth of small industries deserves much careful thought and study. Small scale industries have so far generally tended to concentrate in big cities and towns for obvious reasons. Official policy rightly stresses the need for dispersal over a wider area with small towns as the centres of growth. Planning for development of such areas should not mean a hotch-potch of schemes with outlays for capital and recurring expenditure and the progress measured in terms of the amount spent. The initial selection itself has to be done with great care with due regard to the human and material potentials. Techno-economic surveys will be helpful but they should not be a mere exercise in the collection of secondary data and compilation of reports lacking in cogent argument leading to definite conclusions. It is rarely that an area is without any kind of industrial activity; how far such activity could form the nucleus of the pattern and pace of development envisaged for the future, needs careful appraisal. Traditional skills have to be taken into account but it would be safe to leave the traditional artisans alone if there is no way of harnessing them to 'modern' industry. The 'extent of the market' should be more decisive than local resources or skills in the choice of industries to be promoted. 'Package Schemes' of subsidies and concessions have their uses but a selective approach is desirable, the 'incentives' provided being appropriate to the area. A co-ordinated effort in creating infrastructural facilities and extending service by way of economic information, technical guidance and management counselling and training is essential. The extension worker thus holds the levers of change and such a one with knowledge, initiative and a sense of dedication will be an invaluable asset.

*The SSI Board in session—where basic decisions on programmes are taken.*

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[5] If the progress of small industries indicates anything, it is that the scope for such organisation is fairly large.

# POLICY OBJECTIVES PROBLEMS & PROSPECTS

## Introduction

THE term 'small scale industry' in India has come to refer to relatively modern industries using machines and power. These industries have been distinguished from handloom, handicrafts, coir, khadi & village industries, sericulture and the like.

On the other hand, small scale industries have also been distinguished from large scale industries by adopting a clear cut definition. The earliest official definition of small scale industries in India was based on capital investment as well as employment. The definition was later changed to include only one criterion viz. capital investment. In course of time, the capital limit prescribed in the definition was also raised and the capital was redefined to include only machinery and equipment and exclude investment in land and building. Since there has been no rigidity about the definition, it was possible to adjust it to suit the changing requirements of the country from time to time. Currently, the definition of small scale industries covers enterprises with capital investment in plant and machinery not exceeding Rs. 0.75 million, and Rs. 1 million in case of ancillary enterprises.

## Growth of Small Scale Industries and Comprehensive Programme for their Development

Modern small scale industries in India were almost non-existent prior to the Second World War. It was during the Second War that a number of small scale industries were established in the country to augment and sustain war efforts, to relieve pressure on shipping and to counteract inflationary trends in the economy. A number of small scale units, especially light engineering units and engineering job work establishments were established to take advantage of the sheltered market and to supply manufactured goods for indigenous consumption as well as for the Allied Forces. After independence, especially during the fifties, organized efforts were made and a comprehensive programme for the development of small scale industries was conceived on the basis of the report submitted by the Team of Ford Foundation experts who were invited to the country for this purpose.

The main requirements of small scale industries, as high-lighted by several committees were transformation from the traditional methods of production to modern techniques, use of better equipment, machinery and processes, guidance on economic prospects of new and old product-lines, requisite technical know-how, provision of adequate credit at reasonable interest, suitable factory space at reasonable rents and, lastly, protection from large scale sector till such time the small scale industries have grown into a viable dynamic and modern sector of industrial growth in the country. In the first phase of small scale industries development, the accent was, therefore, laid on providing a favourable climate conducive for setting up of new units as well as for modernization and rationalization of the existing small scale units. To this end, attempt was made through various publicity media of the Government to create consciousness among the entrepreneurs, financiers, businessmen and workers to establish new units and diversify production in the existing ones. Besides, during the First Five Year Plan, the programme of small scale industry development was conceived mainly to protect the small scale industries from the competition with the better organized large scale units by providing subsidies and preferential excise duties to small scale sector and imposing restriction on large scale units.

As a result of the Ford Foundation Team's report, a new policy-orientation was given to the small scale industries development programme and a positive programme of assistance to small scale industries was formulated to enable them to stand on their own and to strive for continuous improvement in productivity and management. This shift in the emphasis called for an effective countrywide 'industrial extension service'. And towards this end the All India Small Scale Industries Board was constituted as an advisory body at the national level to indicate policies for development of small scale industries. The office of the Development Commissioner (Small Scale Industries) was also established in 1955 to coordinate and execute the policies of the Government of India for the development of small scale industries. Under this organization, four regional institutes called Small Industries Service Institute were set up to provide consultancy and extension services to small scale units. In course of time, the Small Scale Industries Development Organization grew into sixteen Small Industries Service Institutes (one each in every State) with a network of extension centres, workshops and laboratories spread throughout the country. In fact, this organization through its institutes and various extension centres, provide economic information, management training and advice, consultancy services and technical know-how to the entrepreneurs right from the stage of planning of a unit to the marketing of the end-product. In addition, the Office of the Development Commissioner (Small Scale Industries) prepares and publishes model schemes, technical bulletins, industry prospects, feasibility reports, etc. for the guidance and initiation of the new and promotable small scale enterprises. These publications provide factual data such as capital investment, machines required, probable margin of profit, technical processes, etc. about a host of different end-products capable of production on small scale basis.

The National Small Industries Corporation (1955), a Government of India undertaking, was also set up to supply machinery and equipment on hire-purchase basis so as to facilitate modernization of plant and equipment in small scale units and promote diversifications of this industrial sector.

The Corporation was also charged with the responsibility of rendering marketing assistance and procurement of Government orders for small scale industries.

During the Second and Third Plan periods, the acute shortage of raw materials and foreign exchange hit the growing and nascent small scale industries. The other problem of technology, credit, factory space, etc., though continued, became less serious and secondary in nature. The development effort was, therefore, geared to the procurement of adequate raw material, components, etc. for the increasing number of small scale units in diverse production fields. The emphasis in the programmes was, thus, on rationalization and consolidation. The small scale sector, which is a free sector with a large number of units widely dispersed, was not in a position to claim its due share of raw materials and foreign exchange allocations on the basis of either actual consumption or the significance of its contribution in certain lines of production, owing to lack of convincing statistics relating to the sector, with the result that many of them had to starve, work to partial capacity or even close down. Such small scale units as managed to continue in operation, could utilize on an average only 30 to 40 per cent of their capacity. This in turn adversely affected their cost of production and profitability. Some units had to work by purchasing raw materials from the open market, some time with unspecified or sub-standard raw materials and in competition with large manufacturers. This was not a very comfortable situation. Thanks to the large demand in the country and the existence of a sellers' market during the Second and Third Plan periods, the small industries not only survived but continued to grow and expand. However, the recent recession had given a jolt to certain selected sectors of small scale industries. It indicated the need for a change of outlook. The sellers' market was yielding place to buyers' market and the production of sub-standard or inferior quality goods was gradually coming to an end. It was necessary, in the interests of steady growth, to increase the efficiency of production in small scale industries through modernization of plant, equipment and management. They had to equip themselves to produce quality goods at a competitive cost not only for the domestic but also for overseas markets.

The programme of development of small scale industries incorporated in the Fourth Five Year Plan has, thus, taken cognisance of the new elements that are likely to impede the growth of small scale sector in future. The implementation of the programme during the past had revealed a number of shortcomings such as (a) absence of effective linkage among agencies

*Evolving a right policy calls for intimate acquaintances with problems. Shri K.L. Nanjappa DC(SSI) is making an on-the-spot study.*

*Shri M.R. Krishna, Dy. Minister for ID & IT on a visit to SISI Madras. Constant touch with the field is a must for evolving the right policy.*

concerned with small industry development, (b) administrative bottlenecks in the operation of the programme concerning industries which come within the purview of the Ministries other than the Ministry of Industrial Development & Internal Trade at the Centre, (c) insufficient attention to the formation of a cadre of competent technical officers at the State level and (d) the comparatively low priority accorded by State Governments to small industries in recent years. Factors such as the very limited response of the large scale sector for the promotion of small scale ancillary industries, the inability of the organizations at the Centre and at the State levels to cope fully with the newly emerging demands and requirements of the small scale sector consequent on changes in technology and the rapid expansion of small industries which resulted in the existence of sizeable idle capacity due to non-availability of critical inputs, impeded the growth of this sector to a considerable extent. The lessons of this experience in the past and the result of the remedial measures which were taken from time to time have been fully kept in view in formulating the proposals for development of this sector in the Fourth Plan.

Besides the above, some of the recent significant developments in the Indian economy such as liberalization of imports, industrial recession, nationalization of banks, delicensing of industries with investment upto Rs. 2·5 million, etc. have been kept in view in formulating the approach of the Fourth Five Year Plan. The new licensing policy is yet to take a final shape and its impact on the small scale sector is likely to strengthen this sector further. Certain new programmes and policies are contemplated to safeguard the interests of small scale industries against their counterpart in the large scale sector, by placing larger resources at their command.

While sustained efforts for increasing the contribution of this sector in terms of industrial output and employment have to continue, the emphasis on promotional measures in the Fourth Five Year Plan has necessarily to be based on

(i) Formulation of an enlightened and equitable small scale Industry Policy;
(ii) Phased programme of modernization of the small scale sector;
(iii) Intensive development of selected small scale industries;
(iv) Marketing and Export Promotion;
(v) Closer Integration between the large scale and small scale sectors through development of ancillaries;
(vi) Closer integration between the agricultural and small scale industries sector and selective promotion of small industries in medium and smaller towns outside the metropolitan areas;
(vii) Special encouragement to entrepreneurs with technical and managerial background, thereby placing small scale industry in competent hands;
(viii) Collection of key statistics for the small scale industries sector on a compulsory basis;
(ix) Strengthening of industrial extension service and provision of critical inputs, e.g. basic raw materials, finance, etc.; and
(x) Promotion of industrial cooperatives of service type.

### Policy & Planning Objectives of Small Scale Industries Development

On the eve of planning era in our country, the objective of balancing the development of 'capital heavy' producers' goods industries with the establishment of 'capital light' methods of production provided the sheet-anchor for small industries development. But with the passage of time as the pace of industrial development in the country gained momentum and industries developed as viable and economic entities, the need arose for shifting the emphasis on various other policy objectives. For instance, decentralization of industrial growth away from metropolitan and large-cities for promoting regional balance and avoiding unplanned urbanization, and integrating industries with rural occupations on the one hand and sophisticated manufacturing activities in big cities on the other hand deserve greater emphasis. The role of small industries spelt out earlier in the Industrial Policy Resolution of 1956 and four successive Five Year Plans remained unaltered, namely,

(i) to provide employment opportunities for labour, technical skills, as well as local enterprises at relatively small capital cost;

(ii) to mobilize un-tapped resources of capital and skill that may otherwise remain unutilized or under-utilized in this vast country of ours;

(iii) to meet the substantial part of increased demand for consumer goods and simple producer goods;

(iv) to ensure more equitable distribution of national income through diffusion of productive industrial activities in large number of hands and counteract tendency towards concentration of economic power by widening opportunities for new and smaller entrants.

### Present Status and Contribution made by Small Scale Industries

The Small Industry Sector consists of 'factory establishments' i.e. small units registered under the Factories Act and 'non-factory establishments' i.e. non-household units that do not fall under the purview of Factories Act, 1948.*

It has been estimated that during the period between 1960 and 1965, the number of small 'factory' establishments increased by 28%, their investment in fixed assets recorded an increase of about 62%, employment of about 20%, gross output of about 70%, and 'net value added by manufacture' of about 50%. As against 50% growth in the 'net value added by manufacture' in small factory sector, corresponding figures for the non-household non-factory units has been estimated at 35%. Both 'factory' and 'non-factory' sectors together accounted for Rs. 6330 million of 'net value added by manufacture' in 1965-66 as against Rs. 4490 million in 1960-61. In other words, small scale sector recorded an overall growth rate of 41% in 'net value added by manufacture' in the course of five years.

In the factory sector alone, total employment generated increased from 1·39 million in 1960-61 to 1.86 million in 1969-70, registering an increase of 41%. It needs to be mentioned that the capital cost for increased employment and output indicated above is the lowest in the case of small industries. Whereas, Rs. 17,711 and Rs. 3,818 respectively are reqired for large and medium industries to create one unit of employment, the small industry sector requires Rs. 1,835 only. In the case of 'value added by manufacture', the ratio of fixed capital to output works out to 1:0.35 for large scale, 1:1.03 for medum scale and 1:1·28 for small scale industries.

*Exchange of ideas and experiences keep the programme on the right keel. Here the technical Officer of SISI is having discussion on the work floor.*

The small scale industry sector has also made a significant contribution towards the growth of non-traditional and new industries in the country. In respect of 17 items which include clinical thermometers, crucibles, hair clippers and hob nails, the entire capacity has been established in the small scale sector only. There are in addition 13 items in respect of which small industries account for 80 to 99.6% of respective total capacities. In this group, there are items like rolling shutters, electric iron, picking sticks, wire mesh and fountain pens. Similarly, in respect of several other industries, the small scale units account for 40 to 70% of total capacity. In this group of industries, special mention may be made of automobile batteries, expanded metal, flash light torches, bicycle free wheels, snap fasteners and machine screws.

More important than the fact of their actual contribution to the total established capacity is the fact that small enterprises have now entered such fields of industrial production as did not exist prior to 1960. Some of these new fields are tape-recorders,

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* Small Scale Units using power with 10 or more workers and those not using power with 20 or more workers fall under the purview of Factories Act, 1948.

hearing aids, transistor radios, bicycle chains, bicycle tubes, loudspeakers, drycleaning equipment, volume controls, gang condensers, cycle dynamos, miniature bulbs, dyestuffs, pesticide formulations, barium salts, printing inks, cloth (electrical insulation cloth), photographic sensitive paper, etc.

### Growth Potential of Small Industries

The fact that small industries have persisted and grown in the face of severe competition from modern large industries in India, points to certain intrinsic qualities of small scale production. In fact, even in the case of industrially developed countries like the USA and particularly Japan, it has been observed that small industry is by no means displaced and, in fact, it takes more modern forms. It has, therefore, been borne out by international experience that the prospects of small industries growth exist not only in the transitional period of transformation of traditional industry into modern industrial structure, but also in the long run side by side with the modern and sophisticated industrial structure.

In India, small industries sector has been called upon to make an ever-growing contribution to the national economy in all phases viz. production, distribution, development of exports, expansion in employment opportunities, import substitution, etc. Besides, industrial activity in small sector may be integrated with that in large sector with considerable cost advantage. And after such an integration has worked to the benefit of both large and small ancillary enterprises, the former can help the latter to develop ancillary relationship with their foreign collaborators as well, of course where foreign collaborator is available and willing to take advantage of lower labour-cost of production in India. Likewise, spatial integration of industrial units may also be attempted through specialization in certain processes of manufacture at six small towns and concentrating on others in bigger towns. Such a spatial and horizontal integration of various processes of manufacture over an area would not only entail comparatively low cost of production through specialization, but it is also highly desirable on account of overriding social and economic considerations which underline the need for dispersal of small industries.

### Reserved Product-lines for Small Scale Industries

Recent delicensing of industries with investment up to Rs. 2.5 million necessitated the reservation of certain product-lines for small scale industries not as a negative or protective measure but primarily as a process to facilitate specialization and appropriate allocation of scarce resources and their fuller utilisation in the national production system. The product-lines which on techno-economic considerations do not warrant locking up of huge capital resources and could be handled competitively on small scale basis need be reserved for the small scale sector for conserving the scarce capital resources so that it is gainfully employed in several other fields that cannot be exploited on small scale basis. In other words, the policy of reservation of certain product-lines for small scale industries is justifiable on the grounds of economic viability and of optimum utilization of scarce capital resources. Thus far 55 items have been reserved for exclusive manufacture by small scale sector and these lines have good scope for development as small enterprises.

Thus small industries which have already entered many sophisticated and modern areas of production have greater role to play as ancillaries to large scale units both in the public and private sectors in the urban areas on the one hand and on the other as units of spatial integration of industrial activity over extensive rural areas, as agricultural produce processing units, as servicing units, etc. The availability of larger and liberal credit from nationalized banks, a more equitable treatment in the procurement of imported and scarce raw materials along with the existing and proposed facilities, would indeed help small scale industries to grow from strength to strength thereby providing a strong and broad base for the industrial economy of our country.

# DISPERSAL OF INDUSTRIES

INDUSTRIES have generally a tendency to be attracted to or concentrated in one or a few urban areas which, *vis-a-vis* other areas, offer comparatively greater economic advantages. The concentration of industries creates the problem of regional disparities, which must be gradually reduced to enable a major section of the population sharing equitably the benefit of economic development of the country. The goal of developmental policies, however, cannot be to foster the growth of industries in all regions equally, especially in a vast and developing country like ours where economic imbalances between various regions are inherent and due mainly to inadequacy or lack of basic facilities like power and water, transport and communication, and partly due to non-availability of necessary raw materials, natural resources etc. It, therefore, becomes imperative for the Government to take effective measures to counteract the strong tendency towards industrial concentration at a few places and to provide the basic economic and social overheads in the undeveloped and under-developed areas where new industries are proposed to be established under a planned economy. Besides direct Government investment in industrial activities in these areas, offering of extra concessions, incentives and facilities of various kinds, with a view to stimulate private investment in those regions also play an important part in their development. As a matter of fact, this has been the experience of both the developing countries and the highly industrially advanced countries. Even the advanced countries like Belgium, Denmark, Federal Republic of Germany, Great Britain, Italy, Northern Ireland, Sweden, Canada, United States etc. had to offer attractive incentives and liberal facilities on a large scale, for the purpose of attracting industries to undeveloped areas. The facilities offered by these countries could be grouped under the following broad heads:

(i) Loans;
(ii) Grants;
(iii) Tax incentives; and
(iv) Site improvement and building construction.

In some countries these concessions are extended even in well-developed regions which have languished in importance over a period of time, due to the decline in the predominant position of certain industries in such regions. For example, in New Castle in the United Kingdom, with the decline of the coal industry, certain concessions have been offered to other industries in that area. Similar facilities are provided in other industrially advanced countries also.

In our country too, the need for reduction of disparities in the levels of development between different regions has been engaging the attention of the authorities right from the time the country became independent in the year 1947. The two Industrial Policy Resolutions of 1948 and 1956 set out in very clear and vivid words, the importance of dispersal of industries as a means of attaining a balanced development of the economy. The relevant paragraph of the Industrial Policy Resolution of Government, dated 30th April 1956 which reiterated the principles set out in the 1948 Resolution reads as follows:—

> "In order that industrialisation may benefit the economy of the country as a whole, it is important that disparities in levels of development between different regions should be progressively reduced. The lack of industries in different parts of the country is very often determined by factors, such as the availability of the necessary raw materials or other natural resources. A concentration of industries in certain areas has also been due to the ready availability of power, water supply and transport facilities which have been developed there. It is one of the aims of national planning to ensure that these facilities are steadily made available to areas which are at present lagging behind industrially or where there is greater need for providing opportunities for employment, provided the location is otherwise suitable. Only by securing a balanced and co-ordinated

*Rural Industries Programme is an effective tool to disperse industries. Picture shows Shri K.L. Nanjappa DC (SSI) conducting Members of Parliament and others around the exhibition specially got up during the RIPC Seminar.*

> development of the industrial and the agricultural economy in each region, can the entire country attain higher standards of living".

This policy was earlier also reiterated and emphasised in the First Five Year Plan as would be seen from the following paragraph extracted from the First Plan document:—

> "It is no longer possible to think of development as a process merely of increasing the availability and supplies of material goods; it is necessary to ensure that simultaneously a study is made towards the realisation of wider objectives such as full employment and the removal of economic inequalities."

The need for checking the concentration of industries was again emphasised in the Second Five Year Plan, as would be seen from the following:

> "Industrial expansion on the periphery of large towns could scarcely be said to reduce the concentration of industry. What was needed, therefore, was a pattern of industrial activity in which a group of villages converging on their natural industrial and urban centre form a unit or, to use the Karve Committee's expression, a pyramid of industry broad based on a progressive rural economy".

The Third and Fourth Five Year Plans also pointed out the necessity for reducing disparities in the levels of development in different regions. Relevant extracts from the said two Plan documents are reproduced below:—

> "Balanced development of different parts of the country, extension of the benefit of economic progress to the less developed regions and widespread diffusion of industries are among the major aims of planned development."
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> "Disparities in levels of development in different regions have to be steadily reduced and the benefits of industrialisation spread evenly between different parts of the country. These aims have to be achieved, as specified by the Industrial Policy Resolution through the balanced and co-ordinatedd evelopment of the industrial and agricultural economy of each region, and through planned urbanisation and the development of economic and social services.
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> Frequently, in the early phases of development, there is a dilemma to be faced: whether it is better to concentrate on developing more favourably situated areas and thus securing quickly the aim of development of the country or through greater attention to the more backward areas. Economic considerations have necessarily to be given importance, but certain social and regional aspects cannot be ignored".
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> "The industrial programme for the Fourth Plan has to keep in view the objectives of development of backward regions and dispersal of industries with due regard to technical and economic considerations. Specific measures required to promote these objectives are being considered."
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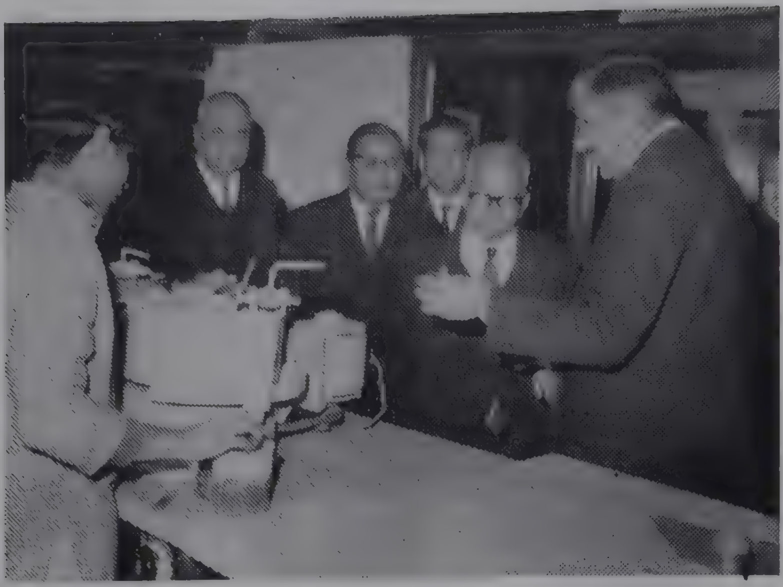
> "The objectives of the (Small Scale Industry) programmes in the Fourth Plan are......to promote decentralisation and dispersal of industries and to promote agro-based industries. In order to achieve these aims, it would be necessary to improve skills and provide a combination of incentives and disincentives for securing decentralisation and dispersal of small industries".

Since the enunciation of the Industrial Policy Resolution of 1956 and the initiation of the Second Five Year Plan, the dispersal of industrial activity in semi-urban and rural areas has been a major objective of industrial development in our country. In the year 1960, a Committee on Dispersal of Industries was set up to examine the question of industrialisation of rural areas and industrially undeveloped areas in the country through small and medium scale industries. This Committee was of the opinion that certain criteria should be laid down for the purpose of selecting specified areas deserving special attention on which development efforts including those relating to dispersal of industries might be concentrated in the Third Five Year Plan. According to this Committee, unemployment was the general criterion applied to identify backward areas in Europe and also in the U.S.A. Unemployment, however, being a common feature everywhere in our country, the Committee considered that several factors based on available data as well as the inter-action of several economic criteria should be taken into account for the purpose of determining backwardness of an area. Accordingly it laid down the following criteria for determining backwardness:—

*Dispersal of industries calls for development of suitable processes and machines. Here Shri T. Swaminathan, Cabinet Secretary is inspecting the work done by S.I.S.I. New Delhi in this direction.*

(1) Poverty of the people as indicated by
  (a) Low per capita income;
  (b) Low per capita consumption.

(Districts having per capita income of 25 percent below the national average and 10% below the State average should be considered as backward. As in certain cases, the State average itself might be considerably below the national average. For the purpose of determining comparative backwardness of districts in



*SISIs are equipped with workshops wherein new products are developed which have considerable demand in rural areas. Shri T. Swaminathan Cabinet Secretary on his visit to SISI New Delhi, inspecting the workshop.*

such States it was necessary to compare their district data with the State average.
Hence both the national and the State averages should be taken into consideration).

(2) High density of population in relation to development of productive resources and employment opportunities as indicated by the following factors:—
  (a) High ratio of population to cultivable land (50% below the national average of per capita land holding should be considered as backward).
  (b) Low percentage of population engaged in output (50% or more below the national average should be considered as backward).
  (c) Absence or under-exploitation of other natural resources viz. minerals, forest and animal.
  (d) Low percentage of population engaged in secondary and tertiary activities (25% below the national average should be considered as backward).
  (e) Low ratio of urban to rural population (Districts where the ratio was less than 50% of the national average might be considered as backward).
  (f) Low percentage of factory employment (50% below the national average might be considered as backward).

(3) Lack of communications as indicated by small lengths of railways and metalled roads per square mile (Districts where the railway and road mileage fall below 50% of the national average might be considered as backward).

(4) High incidence of unemployment or gross under-employment.

(5) Consumption of electric power.

The incentives recommended by this Committee included the provision of social overheads like the arrangement of factory accommodation, facilities for housing, common service facilities, ensuring supply of raw materials and fiscal incentives like tax concessions, subsidised electricity tariff and water rates, credit facilities, machinery on hire purchase, subsidy on freight etc. The Committee also recommended that certain industries which had no particular bias towards developed areas for their location and which normally come to be established following the development of agriculture and the generation of certain amount of economic activity should be kept out of the purview of the proposed incentives. Considering this, the Committee recommended the exclusion of the following industries from the concessions proposed under the incentives scheme:

(i) Non-mechanised industries
(ii) Rice and pulses mills
(iii) Oil mills
(iv) Flour mills
(v) Alcohol producing industries
(vi) Ginning
(viii) Pressing

**Rural Industries Projects**

In the year 1962-63, the Rural Industries Projects programme was initiated at the instance of the Rural Industries Planning Committee, with a view to evolving effective techniques, methods and programmes for the intensive development of small industries in selected rural areas (most of which may be considered as backward areas) so that these could be extended to other areas with high incidence of unemployment. These rural industries projects were located with reference to the following different sets of conditions:—

(a) Where agricultural conditions are favourable and a considerable agricultural effort is being organised, and at the same time, there is heavy pressure of population;

(b) Where agriculture is undertaken mainly under unirrigated conditions and there is considerable need for additional employment;

(c) Where there is considerable under-employment because of unfavourable natural conditions and lack of development of potential resources;

(d) Tribal and other backward areas;

(e) Areas in which large industrial projects have been or are being established so as to achieve integrated industrial-rural development, agriculture and small industries being developed together within the region of the industrial projects; and

(f) Areas in the neighbourhood of rural universities and institutes.

A recent review of the progress achieved in the 49 projects selected under this programme shows that a satisfactory progress has been achieved in a number of these projects. Nearly 29,000 units have been assisted in all the 49 projects from the inception of the programme. Gross value of production of these units during 1969-70 is estimated at over Rs. 100 million while the total number of persons provided employment opportunitries as on 31st March, 1970, is estimated at 110,000. 350 training centres set up under the Programme provided training facilities in improved equipment and techniques of production to over 37,000 persons. Facilities for modern machinery and services have also been made available to nearly 70,000 small scale units and artisans under this Programme. The range of industries covered by these units covers about 150 industries.

Quite a number of promotional measures have since been taken by the Government of India to encourage establishment of industries in backward areas; important among them being the programme of identifying areas in which various basic economic facilities such as electricity, larger supply of agricultural raw materials, improved means of transport etc. are either available or would become available. A group of industries mainly based on local raw materials, local skills and local demand are selected for development in these sectors. So far, as many as 346 Growth Centres have been identified. Besides, studies are being conducted for promoting development plans for selecting centres which can serve as 'Models' to State Governments. It is also proposed to enlist the co-operation and assistance of certain universities and specialised institutions for undertaking such studies. The criteria for the identification and development of Growth Centres are as under:—

(1) *Population range*

To limit the scope of selection, towns having a population of 50,000 in the Census of 1961 may be taken up as the universe of centres. In this population range, practically all Class V to Class III towns would be covered.

(2) *Rate of growth*

This relates to the growth of population in these towns. At the stage of selection, those towns may be considered which show the fastest rate of growth amongst themselves. The rate of growth of fast-growing towns may be checked in relation to the average growth-rate in each State.

(3) *Proximity to an established industrial centre*

According to a Study Team appointed by the Department of Community Development & Co-operation, block headquarters are located in the orbit of a metropolis or a big industrial centre having achieved a much faster rate of growth and physical development. Thus, these towns should qualify for selection, which are located at a distance of 20 to 30 miles from larger urban centres.

(4) *Availability (present and potential) of economic overheads such as water supply, electricity, transport and communications*

In many of these towns, these facilities already exist and in others, they may be envisaged. These facilities, if available, can justify the creation of focal points in these centres for agro-industrial development.

(5) *Functional orientation towards industry/commerce*

A substantial percentage of workers is being employed in commerce and industry. This percentage may be fixed arbitrarily after computation of ratios of industrial and commercial workers put together to the workers in these areas.

(6) "Mandi" towns show a particular level of specialisation and would, therefore, merit selection.

(7) Convenient location from the point of view of transport and communications to serve as focal points of development of surrounding rural areas would be a favourable factor for selection as growth centre.

(8) Intensity of agricultural development, particularly production of cash crops and other agricultural raw materials in the surrounding area would be a basic advantage.

### Intensive District Campaigns

Intensive district campaigns have also been organised by the Development Commissioner, Small Scale Industries, with the help of the State Directorate of Industries, the National Small Industries Corporation and other agencies, in potential pockets/ districts having the basic infra-tructural facilities, with a view to locating prospective entrepreneurs and persuading them to set up small scale industries. Model schemes containing the main requirements of industries having scope for development are displayed with a view to stimulating the thoughts of the people and various facilities available to small scale units, like the grant of machinery on hire purchase, allocation of raw materials, credit facilities, etc., are explained by the Officers participating in the intensive campaigns. Applications of the prospective entrepreneurs for purchase of machinery on instalment basis as well as for expansion of the existing ones are scrutinised and analysed on the spot during the course of campaign itself. The various avenues of production having potential for development are indicated to small industrialists.

Technical assistance rendered to the units set up in backward areas through the net-work of Small Industries Service Institutes and Extension Centres established all over the country has also been activised considerably. In several cases, techno-economic surveys have been conducted in the backward areas in order to draw up schemes suitable for enterprises to be located in those areas. More than 130 area surveys have since been conducted in rural districts, pointing out the potential/prospects for setting up a wide range of industries in the districts/areas surveyed and a large number of schemes suitable for enterprises to be located in backward areas have been drawn up for supply to existing as well as prospective entrepreneurs.

Facilites are also provided to artisans in those areas for training in a variety of trades such as tailoring, blacksmithy, die making, leather goods etc. Mobile demonstration vans have been visiting the areas frequently so as to acquaint the artisans with the use of improved variety of machinery and to help them in improving their productivity. There are, at present, more than 30 mobile vans in the various SISIs which visit large number of sectors and villages and conduct about 4000 demonstrations a year.

### Rural and Semi-Urban Industrial Estates

Industrial estates have also been used as an instrument for dispersal of industries. 184 industrial estates in semi-urban areas, and 132 in rural areas have been started, which provide the requisite basic facilities for industrial development. These estates have helped promote quite a number of modern small scale industries in semi-urban , rural and backward areas.

### Incentives

Some of the State Governments have also taken a number of measures for dispersal of industries in the comparatively more backward areas in their states. Maharashtra has launched a 'package programme' in terms of which special incentives are offered to all new industries coming up in certain specified backward areas. The incentives offered include rebate on electricity tariff, refund of sales tax on purchase of raw materials as also on finished products, exemption from octroi duty, States' contribution towards the cost of preparation of feasibility studies and preferential treatment in the matter of Government purchases. In the same way, other States like Rajasthan, Orissa, West Bengal, etc. also accord preference for development of industries in the comparatively more backward areas in their states by way of giving liberal financial assistance, priority in the matter of approval of schemes, provision of common facility services, allotment of developed plots of land for industrial uses at concessional terms and conditions, etc.

However, in spite of these efforts made by various authorities, the economies of many regions have continued to remain backward. In view of the persistent backwardness of certain states/areas and the need to tackle this problem assiduously, on a rational and comprehensive basis, the Government of India appointed in the year 1968 two high powered Working Groups—one under the chairmanship of Shri B.D. Pande for identifying backward areas and the other with Shri N.N. Wanchoo as its chairman for recommending fiscal and financial incentives for starting industries in backward areas. These Working Groups have since submitted their reports and have made very valuable suggestions for speedy industrialisation of the backward areas. The broad guidelines suggested for identifying economically and industrially backward districts which possess the minimum infra-structural facilities essential for industrial development were as follows:—

(i) Per capita foodgrains/commercial crops production, depending on whether the district is predominently a producer of foodgrains/ cash crops (For inter-district comparisons conversion rates between foodgrains and commercial crops may be determined by the State Government on a pre-determined basis where necessary).

(ii) Ratio of population to agricultural workers.
(iii) Per capita industrial output (gross).
(iv) Number of factory employees per lakh of population or alternatively, number of persons engaged in secondary and tertiary activities per lakh of population.
(v) Per capita consumption of electricity.
(vi) Length of surfaced roads/railway mileage in relation to population.

Only those districts with indices well below the State average, it has been decided, should be considered for suitable incentives from financial institutions.

The Pande Working Group set up for identification of backward areas was also of the view that one of the problems of the states, which may not qualify as industrially backward, was to promote and encourage dispersal of industries through disincentives. Most of these states had relatively more financial resources of their own to grant concessions and incentives for attracting industries to new areas. In fact, some of these states were already doing so. On the other hand, the industrially backward States had neither industries nor resources of their own to grant suitable incentives and, as such, also did not receive adequate support from financial and banking institutions. Moreover, apart from constraints on resources, it was considered that grant of fiscal and financial incentives to areas in all the states might further accentuate the existing regional imbalance amongst different states.

Important among the recommendations made by the Working Group popularly known as Wanchoo Committee are:—

1. Preference should be given in the development programme of the specified backward regions to construction of buildings, approach roads, supply of electric connections, building materials, and the common facilities and common service workshops should be set up there;
2. Carrying out surveys for tapping the potential of the backward areas in a planned manner and pointing out the industries having good potential for development;
3. Preference in the allotment of foreign exchange for the import of capital equipment;
4. Grant of built-up accommodation as well as plots for factories in the backward areas on concessional terms;
5. Giving more than normal concessions in the matter of supply of machinery and equipment to units in backward areas;
6. Grant of fiscal incentives like higher development rebate, exemption from income tax, exemption from payment of import duties, sales tax and grant of transport subsidy;
7. Earmarking larger sums of credit exclusively for industrial units in backward areas.

Besides, the Working Group also recommended that so long as the system of industrial licensing continues, preference should be given to viable schemes proposed to be set up in the backward areas. The reports submitted by these two Working Groups have since been considered by a Committee of the National Development Council and the main recommendations made by them are as follows:—

(a) In areas where economic infra-structural facilities existed already, the states identified as industrially backward by the Pande Working Group may concentrate their efforts for accelerating industrial development on the lines outlined by the Working Group in two selected districts. The other States and Union Territories may do the same in one selected district each;
(b) Concessions to be offered by financial and credit institutions for financing industries in backward areas should be available to selected backward areas in all the States and Union Territories;
(c) As regards the positive measures and incentives to be offered by the State Governments, each of them would take their own decisions in this respect. However, the Committee of the National Development Council desired that there should be active inter-change of ideas prior to the finalisation of decisions regarding package of incentives between the State Governments, Ministry of Industrial Development & Internal Trade and the Planning Commission, so as to avoid large-scale variations from State to State;
(d) As regards the incentives to be offered by the Centre, it was proposed that instead of a number of different incentives, the Centre may offer an outright grant/subsidy amounting to 1/10 of the fixed capital investment in new units

having total fixed capital of not more than Rs. 5 million in two districts in each of the 9 States identified as industrially backward by the Pande Working Group and one district each in other States and Union Territories.

In pursuance of these recommendations, the Planning Commission has taken up the question of selection of districts in various States and Union Territories (including 9 States identified as industrially backward, viz., Andhra Pradesh, Assam, Bihar, Jammu & Kashmir, Madhya Pradesh, Nagaland, Orissa, Rajasthan and Uttar Pradesh). So far the selection of nearly 70 districts as qualifying for concessional finance has been finalised in States like Assam, Bihar, Gujarat, Haryana, J & K, Mysore, Orissa, Punjab, Rajasthan, West Bengal and U.P., the last State alone accounting for about 25 districts. The selection of the districts in the remaining States is also being processed. The State Governments have also been requested by the Planning Commission to suggest the names of two or three districts from out of the list of districts selected as qualifying for concessions from financial institutions, for consideration of the outright grant or subsidy by the Centre amounting to 1/10 of the fixed capital investment of new units having a fixed capital investment of not more than Rs. 5 million. A sum of Rs. 50 million has been provided in the Fourth Plan for this purpose.

The important financial and credit institutions like the I.D.B.I. (Industrial Development Bank of India), the Industrial Finance Corporation of India, the Industrial Credit and Investment Corporation of India and the Life Insurance Corporation of India have also come forward to offer additional incentives in pursuance of the Government policy to help promote the development of industries in backward areas. As a matter of fact, the I.D.B.I. and I.F.C.I. had already formulated certain broad proposals for assisting, on softer terms, small and medium enterprises existing or proposed to be set up in underdeveloped areas of the country.

Though the nature and the extent of concessions offered by the I.D.B.I., in terms and conditions of assistance would depend on the merits of each case, broadly these would take the form of:—

1. Lowering of the rate of interest on industrial loans from the normal rate of 8% to 6%, if not for the entire duration of the loan, at least for a part of it;
2. Exempting payment of interest for the first 3 to 5 years, the interest falling due in this period being paid subsequently alongwith current interest after the industrial concern is well established;
3. Deferring the payment of principal in the first 5-8 years against the normal grace period of 3 years and extending the repayment period of loans beyond the usual 10-15 years;
4. Subscribing relatively heavily to risk capital of projects in the backward areas;
5. Bearing the cost of consultancy services to prepare feasibility reports for the entrepreneurs initially, subject to reimbursement later when the project reached the profit earning stage.

The I.D.B.I. has also agreed to refinance fully all eligible loans for Rs. 2 million to small and medium projects in specialised backward areas at a concessional rate of interest of 3½%. With this concession, it is expected that the industries in backward areas would not have to pay a rate of interest exceeding 6%. However, in deciding the terms of reference, the I.D.B.I. would take into account other concessions that will be granted by primay lending institutions viz. commercial banks and State Financial Corporations, such as, exemption from payment of commitment charge, extension of period of repayment, grant of moratorium for the repayment of loan instalments and the payment of interest, etc.

In the same way, the Industrial Finance Corporation of India has also decided to give financial assistance on concessional terms to small and medium entrepreneurs in certain selected backward areas in the country. These concessions include 1% lower rate of interest, that is 7½% instead of 8½%, with a rebate of ½% for timely payment of interest and principal. The period of first repayment of the principal amount has been extended from 3 to 5 years and of repayment of loans from 10-12 years to 15-20 years. The Corporation's service charges have also been cut by half. The other two public financial institutions viz. the Industrial Cerdit and Investment Corporation of India and the Life Insurance Corporation of India are also contemplating to offer additional incentives.

**Need to publicise the Incentives and Facilities**

With a view to attracting an increasing number of entrepreneurs to set up industries in the backward areas, it is very necessary to make these incentives known to as large a number as possible. There is, therefore, an urgent necessity to give wide publicity to various concessions which are now available both from Government and the leading financial institutions, to entrepreneurs setting up units in the selected backward districts. At the same time, arrangements should be made on a priority basis by the States and Union Territories for undertaking feasibility study reports for starting suitable industries of varying sizes and making them available to entrepreneurs at reasonable cost. Special machinery should also be set up in all the States and Union Territories to provide promptly technical and other information that may be required by the entrepreneurs and also to financial institutions for processing of the applications for credit facilities. But what is most urgently needed is the provision of essential infra-structural facilities. The backward areas generally lack adequate transport and communication facilities, power, technical education, warehousing and other facilities. Even the development of markets in these areas, which is indispensable for the rapid growth of small scale industries, is dependent upon the existence of adequate infra-structural facilities. Development of industries in the under-developed areas will be, therefore, facilitated if effective steps are taken to provide these facilities expeditiously.

With the provision of the various incentives and facilities since announced by the Government as well as the various financial institutions and the priority accorded to the development of the backward areas in various programmes of development, it is hoped that quite a large number of industries, particularly those based on the local raw materials and skills, would soon come up in the backward areas. The hope of balanced economic growth is bound up with the spread of these industries all over India.

# RURAL INDUSTRIALISATION

### The Rationale

THE rationale of industrialising rural areas has been questioned more than once on considerations of economic growth. It has been argued that a widely dispersed and decentralised sector of industry has comparatively lesser propensity for capital formation. This argument has been adequately answered by the President, Shri V.V. Giri, while addressing the 54th Session of the International Labour Conference at Geneva on 12th June, 1970. He commended the effective utilisation of human resources in a developing country as a focal point of social and economic policies. He stated that "for purposes of the production function, economists have all along classified resources into 'material' and 'human', but never before have human resources received such serious attention from them, as they have, since the recent advent of the theory of economic growth. The term 'Human Resources', easily the most comprehensive term in this context, indicates all potentially employable persons who could be deployed and utilised for productive purposes. Further, the concept underscores the implication that in so far as they are 'resources', the human resources ought to be 'invested', for their non-investment, obviously, results in economic wastage and a shortfall from optimal output. In under-developed countries, particularly the primary producing and heavily populated countries, human resources constitute the only resources relatively abundant and, therefore, their full and effective utilisation becomes a focal point of social and economic policy."

### Prevailing Economic Situation

India is an under-developed country as will be clear from various economic indicators. It is heavily populated with 546 million people. 82% or 447 million live in rural areas, dependent mainly on agriculture. Of the total geographical area of 326 million hectares, 45.1% or 137 million hectares only are under cultivation, of which only 19% or 26 million hectares are irrigated. Holdings are too small, the all-India average being 2.6 hectares, to afford significant improvements in agriculture. The net gross national product at current prices has been estimated at Rs. 279,220 million in 1967-68, agriculture contributing nearly half. This works to a per capita income of Rs. 542.9. The rate of economic growth for the last two decades has varied from year to year. It registered an average annual rate of 3.5% during the five year period 1951-56; 4% per annum during 1956-61; and 2.9% annually during 1961-66. In 1966-67, the growth was too slow, viz., only 1%, but registered substantial increase (9.1%) in 1967-68. Because agriculture contributes about half of the national product, the rate of overall growth has followed the vagaries of Indian agriculture. The three Five Year Plans ending 1965-66 envisaged growth at an annual rate of 5% but the achievements fell short of targets, largely because of droughts and floods and consequent lower yield from agriculture. The rate of growth in population, on the other hand, has been registering constant increase. It rose from 1.8% per annum during 1951-56 to 2.13% annually during 1956-61 and 2.41 % per year during 1961-66. A further annual increase upto 2.5% is expected during 1966-71.

### Industrialisation—The Answer

In a developing country like India, with the conditions mentioned in the statistical data reproduced above, it is imperative to launch planned economic development. A higher rate of growth can be achieved by proper selection of fields for investment. Industrialisation, in this context, is a better alternative, particularly for a country like India, where agriculture is the pre-dominant occupation although there is still considerable scope for further investments in agriculture to intensify efforts for improvements in farming practices including provision of irrigational facilities, better and improved fertilizers, high yielding varieties of seeds, etc. However, it has to be recognised that the returns from agriculture are ultimately subject to limitations. Further, improvements in agriculture will be more effective if the pressure of population on land is reduced substantially. Industrialisation, therefore, is the answer to the formidable problem of growth.

### Disadvantages of Large Scale Industrialisation

Centralised large scale industrialisation particularly in large urban centres creates a variety of complex problems defying solution in developing countries. Firstly, it requires large capital resources beyond the capacity of developing countries to raise on their own. They have, therefore, to depend on foreign aid which is not always easily forthcoming. Secondly, it involves substantial amount of foreign exchange, which is not available in adequate volume from the export earnings of these countries. Thirdly, large scale industrial units take longer gestation period, resulting in immediate inflationary trends in economy. Fourthly, because of the sophisticated nature of technology and techniques adopted, it has to depend for quite some time on technical know-how from abroad. Fifthly, employment potential per unit of capital investment in large scale industries is too small to afford much relief to the growing unemployment problem. Sixthly, centralised large scale industrialisation creates various social problems associated with overcrowded industrial urban centres. Lastly, lessons of experience, in this country, are that large scale industrialisation has resulted in concentration of economic power in fewer hands, failed to provide solution to regional economic imbalances and generated monopolistic tendencies. It is to provide remedies to these complex problems that a dispersed and decentralised sector of industry has been advocated.

## Dispersal and Decentralisation

Dispersal and decentralisation are two different concepts. Strictly speaking, dispersal has locational significance and implies location of industrial units, large and small, away from congested centres, while encouragement of the growth of small sized units is the major aim of decentralisation. In any economy it may be found necessary, on techno-economic considerations, to undertake some activities, e.g., steel making, petro-chemicals and heavy machinery manufacturing in large units or a complex of such units. At the same time, other activities, where small size of the units does not make them wholly uneconomic or where small size confers clear and definite advantages, can be undertaken on small scale. Similarly, there are a number of industrial activities, particularly those relating to the processing of agricultural produce and other local raw materials and also manufacture of inputs for agriculture, which have decided economic advantages in their being located near the sources of raw materials. In their case and also in the case of some others, catering to local demand, a more prudent policy will be to encourage dispersal. Although theoretically there is no inevitable connection between dispersal and decentralisation, because even an organised large scale industry can be developed on a dispersed basis and small units of industry may concentrate in and around metropolitan centres and large urban cities, nevertheless, in India 'Rural Industrialisation' implies a dispersed decentralised sector of industry.

## Policy

Industrialisation of rural areas is not a new concept in India. Even before independence of the country, in 1947, the idea was pursued vigorously by Mahatma Gandhi as early as twenties of this century. Since planned development was initiated in India in 1951, it received added emphasis and importance. The two Industrial Policy Resolutions of 1948 and 1956 set out in clear and unambiguous terms the policies the Government proposed to pursue in the industrial field. Apart from emphasising the role of public sector in the future industrial structure, the resolutions recognised the importance of dispersal as a means of (a) removing disparities in regional development; (b) rehabilitation of displaced persons; and (c) better utilisation of local resources and achievement of local self-sufficiency. This principle may also be said to have been accepted, implicitly, by the framers of the Indian Constitution in the directives to the State to "endeavour to secure, by suitable legislation or economic organisation or in any other way, to all workers, agricultural, industrial or otherwise, work, a living wage, conditions of work ensuring a decent standard of life and full enjoyment of leisure and social and cultural opportunities."* The Industrial Policy Resolution 1956 is more categorical in this regard when it lays down that, "In order that industrialisation may benefit the economy of the country as a whole, it is important that disparities in the levels of development between different regions should be progressively reduced....It is one of the aims of national planning to ensure that these facilities are steadily made available to areas which are at present lagging behind industrially or where there is greater need for providing opportunities for employment, provided the location is otherwise suitable. Only by securing a balanced and coordinated development of the industrial and agricultural economy in each region, can the entire country attain higher standards of living."** It is not necessary to quote at length the various suggestions and

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*Article 43, Part IV of the Constitution of India, Directive Principles of State Policy.

**Para 15 of Industrial Policy Resolution, 1956.

*SSIDO often arranges exhibitions in the rural areas as a part of its developmental programme. Here a typical exhibition stall of the SISI is in view.*

recommendations made by the Planners in successive Five Year Plan documents in regard to this policy. It is sufficient to point out that this policy was reiterated and emphasised in each of the successive Five Year Plan documents, including the recent document on the Fourth Plan. A dispersed and decentralised sector of industry or the programme of 'Rural Industrialisation', therefore, answers several essential social and economic needs of rural areas. It aims at: (1) enlarging employment opportunities; (ii) raising incomes and standards of living of rural communities; (iii) diversification of rural occupations; (iv) reducing exodus to urban centres; (v) eliminating regional economic imbalances; (vi) reducing inequalities in wealth and incomes; and (vii) securing social justice.

**The Problem of Unemployment**

The problem of unemployment and under-employment throughout India is assuming alarming proportions. On the one hand, the population is growing at a rapid rate and on the other hand, employment opportunities provided by development programmes during the successive Five Year Plan periods have fallen short of requirements. Unlike in the previous Plan documents the Fourth Five Year Plan does not contain any estimates of the size of prevailing unemployment or underemployment or even the estimates of job opportunities that will be generated through the implementation of development programmes included in the Fourth Five Year Plan. This is because the Planning Commission felt that in view of considerable divergence of opinion about definitions and suitable yardsticks for measuring unemployment and under-employment and widely differing magnitudes of unemployment worked by various sources, the different aspects of the matter needed closer scrutiny. The Planning Commission, accordingly, set up a Committee of Experts to enquire into the estimates of unemployment worked out for the previous Plans and the data and methodology used in arriving at them. The Committee has gone into various aspects of the problems and has observed that the estimates of labour force, additional employment generated and unemployment at the beginning or the end of a Plan Period presented in one dimensional magnitude were neither meaningful nor useful as indicators of the economic situation, and therefore the methods adopted by the Planning Commission so far for estimation might be given up. The Committee has made various suggestions including undertaking special studies, improvements in collection and presentation of data collected by various agencies, etc. In the light of the observations of the Committee, the Planning Commission has made no attempt, in the document on Fourth Plan, to present data on the lines followed in previous plans. This, however, does not minimise either the magnitude or the importance of the problem. Even assuming that the estimates of unemployment presented in the previous plans are not very reliable, as suggested by the Planning Commission, they, at least, provide some basis for appreciating and realising the magnitude of of the problem and, therefore, it is not completely out of place to present it here. The backlog of unemployment estimated in 1966 was put at 10 million, of whom about 3/4th were estimated to be in rural areas. Besides, the number of underemployed, available and willing to take up additional work, was reckoned at 16 million in that year. The magnitude of the problem can be better realised when it is found that about 25.6 million people will be added to the labour force over the 10 year period ending 1976. A satisfactory solution of this gigantic problem, therefore, at once poses a challenge and provides an exciting adventure.

Rapid growth of population estimated at present at about 2.5% per annum has created serious situation in rural areas in increasing pressure on land. Apart from creating social and economic problems the continued reduction in land-man ratio is acting as a limiting factor in effecting improvements in farm practices and bringing about much needed revolutionary changes in agriculture. If, therefore, new strategy and techniques of farming introduced during the last few years in India are to yield expected results, rural occupation will have to be diversified and non-farming job opportunities made available to absorb surplus from land.

**Low Income in Rural Areas**

For centuries incomes and living standards of rural communities in India have remained much below the subsistence level. 50% of the National Income at present is contributed by the rural communities accounting for about 82% of the total population. Unless their contribution to the national income is substantially raised by supplementing their incomes, the rate of economic growth cannot be fast enough to reach a breakthrough stage in the near future. Further, massive industrialisation of the country needs substantial increase in consumer demand to avoid recession. This can be achieved by raising the purchasing power of the 82% population living in the countryside.

**Exodus**

With rapid industrialisation of urban areas and increasing pressure of population on land, there has been continuous exodus of rural population to urban centres for search of better employment and wages. This situation, on the one hand, denudes rural areas of its intelligentsia and on the other creates social and economic problems associated with over-crowded industrial urban centres.

**Previous Attempts**

As a follow-up of policy decisions mentioned earlier, various measures were taken by the Government since 1950 to encourage growth of dispersed and decentralised sector of industries. These include constitution of six all-India Boards responsible for planning and development of certain groups of industries. These include Khadi & Village Industries Commission, the All India Handloom Board, Handicrafts Board, Silk Board, Coir Board and SSIDO. These bodies have done considerable useful work and achieved substantial results. Further, some policy measures were also taken. These include certain protective legislation such as restriction on the expansion of capacity and or production of some large scale industries competing with the decentralised sector, reservation of certain spheres of production in the textile industry, levying of differential excise duties on some large scale industrial units and provision of positive forms of aid and assistance including financial, technical, organisational and marketing. While these measures have resulted in phenomenal growth of more modern and mechanised small scale industries, mainly in metropolitan cities and large urban centres and have also to some extent, helped in arresting the decline of some of the traditional industries, the impact on the overall rural economy has been very limited. This is partly due to the formidable and colossal nature of the problem and partly because appropriate measures to encourage dispersal were not taken. Besides, absence of adequate social and economic overheads in rural areas has deterred enterprise from undertaking industrial activities in such areas.

**Pilot Programme**

The problem was, therefore, further considered in 1961 at a meeting convened by the Planning Commission which was attended by members of the Planning

Commission, concerned Central Ministers, prominent social workers such as S/Shri J.P. Narayan, Shankar Rao Deo, V.L. Mehta, A.W. Sahasrabudhe, Prof. D.R. Gadgil and Smt. Kamala Devi Chattopadayaya. After detailed discussions it was decided to launch a massive programme of Rural Industrialisation, after evolving appropriate and effective methods and techniques and on the basis of experience gained from working a pilot experimental programme. The pilot programme was to be taken up under 'area development' approach involving alround development of agriculture, irrigation, transport and communications, power, industry, social services, etc. The programme for fostering growth of industries, under this concept, was to be a part of the overall and integrated development plan of the area. Every sector of economy was to support and supplement others to achieve the desired growth. The aim and total long term effect of the pilot programme was to convert the present lopsided purely agricultural communities into balanced agro-industrial communities.

Rural Industrialisation was to be based on local resources and local needs, The term 'local' does not necessarily imply one village, but it might include a village, a group of villages, a block or a district—depending upon the nature of the industry and the technology involved. The raw materials were mainly to be obtained from the locality but in particular cases they could also come from the cities, such as iron and steel for manufacturing agricultural implements. Similarly, the primary objective was to meet the local demand but supply to urban areas was not ruled out. There were to be no preconceived limitations or inhibitions of a doctrinaire or sentimental type of regard to the matter relating to the use of power and levels of technology. Suitable organisational structure was to be evolved to avoid exploitation of working class. The experience gained in this pilot programme was to be used for expansion of the programme throughout the countryside.

The pilot programme was initiated in 1962 as a Centrally sponsored scheme. It was also decided that Planning Commission in consultation with the concerned Ministries would look after the programme at the Central level. Initially, 45 areas were selected for the pilot programme in 15 States and 4 Union Territories. Each area covered 3-5 C.D. Blocks (300-500 villages) with a population of 3-5 lakhs. Four more areas, near large scale public sector industrial enterprises, at Bhilai, Durgapur, Ranchi and Bhadravati were added in 1965. A list of the selected projects is appended as Annexure '1'. The selection of areas was made on the basis of the following criteria prescribed by the Planning Commission:

(a) where conditions are favourable and a considerable agricultural effort is being organised, and at the same time, there is heavy pressure of population;

(b) where agriculture is undertaken mainly under unirrigated conditions and there is considerable need for additional employment;

(c) where there is considerable under-employment because of unfavourable natural conditions and lack of development of potential resources;

(d) tribal and other backward areas;

(e) areas in which large industrial projects have been or are being established, so as to achieve integrated industrial rural development, agriculture and small industries being developed together within the region of the industrial projects; and

(f) areas in the neighbourhood of rural universities and institutes.

The very fact that some of these criteria were not conducive to industrial growth indicates that the pilot programme was mainly launched to gain experience, to evolve methods and techniques for rural industrialisation and identify problems under different sets of conditions.

**Area Development Concept**

With a view to realising the 'area development' concept in these 49 areas, it was necessary to secure coordination and cooperation between various agencies and departments responsible for development of various sectors of economy at different levels including centre, state and local. Accordingly, special administrative arrangements were evolved at each level. At the centre, a high-power Committee viz., Rural Industries Planning Committee, with Deputy Chairman of the Planning Commission as Chairman, concerned Central Ministers responsible for important sectors of economy, two members of the Planning Commission, several non-official social thinkers and a prominent economist, as members was appointed to review the progress of 'Rural Industrialisation', advise on matters of policy and planning relating to them and recommending programmes for intensive development of small industries in rural areas. At the State level a similar Advisory Committee with the State Chief Minister as Chairman and heads of various sectoral departments as members was constituted. Its functions were analogous to that of the Central Committee with the additional responsibility of scrutinising programmes and exercising supervision over their implementation. Another Committee, at the project or 'local' level consisting of sectoral heads at the district level was also constituted, mainly for drawing up plans and their implementation. In the Committee, at the three levels, a number of non-official social workers were associated to secure their cooperation and assistance.

### Project Organisation

A special team of officers was appointed in each project. This consisted of a Project Officer, of the level of Deputy Director of Industries in the State, a Planning-cum-Survey Officer, of the level of Assistant Director of Industries in the State, two Technical Experts, of the level of Assistant Directors of Industries in the State, two Economic Investigators and extension staff in the blocks. Apart from funds available under normal State Plan budgets and from institutional agencies additional nucleus funds were also provided by the Centre to finance the scheme. Although the responsibility for formulation and implementation of the programme in the project areas was that of the State Governments, the Central Government provided overall guidance and took decisions on policy issues. The programmes in the project areas are mainly of promotional character such as provision of training facilities, common service facilities, marketing facilities and credit purchase of machinery, construction of worksheds and working capital. The programme also envisages provision of technical assistance and guidance.

### Surveys

To start with, preliminary techno-economic surveys were undertaken in each project area with a view to assessing their resources—material as well as human, and also to determine the possibilities and potentials of industrial development. Development programmes were drawn up on the basis of the findings of the surveys. The proformae and questionnaires for the survey were drawn up in the Planning Commission. Detailed instructions about methodology to be used were also worked out for the field staff. The survey took between six months to one year before the reports were completed. Before the work relating to surveys was started two orientation courses each lasting a fortnight were arranged in Delhi for Project Officers and Planning-cum-Survey Officers. Apart from explaining the objectives of the programme, the instructions at the orientation courses included surveys, planning, extension work, finance, technical problems and 'area development'. The Orientation Course proved very useful in undertaking surveys and drawingup programmes. The work relating to formulation of programmes and their approval by competent authorities took about a year and a half with the result that their implementation started sometime in 1964. The programme is, therefore, under effective implementation for a period of 6 years.

### Review of Progress

A recent review has shown that the programme has entered a crucial stage in its implementation. The range of industrial activities has considerably widened and techniques and methods steadily improved in the light of growing experience. At the same time, certain problems and difficulties have also been identified. The nature of problems varies from one area to another as does the progress. The progress in some areas is phenomenal while the achievements in some others, less favourably situated, fell short of expectations. Very largely this was to be expected as the pilot programme was drawn up to gain experience under different sets of conditions. Achievements in concrete physical terms are spelled out in more details in the following paragraphs.

Since the inception of the programme in 1962-63, funds totalling about Rs. 123.70 million have been spent on promotional programmes upto March, 1970. The year-wise volume of expenditure incurred is given in the following table:

TABLE I

**Year-wise Expenditure on Rural Industries Projects Programme**

(Rs. in million)

| Year | Grants | Loans | Total |
|---|---|---|---|
| 1962-63 (Actuals) | 0.244 | 0.012 | 0.256 |
| 1963-64 ,, | 4.436 | 3 521 | 7.957 |
| 1964-65 ,, | 7.390 | 10.135 | 17.525 |
| 1965-66 ,, | 10.413 | 12.998 | 23.411 |
| 1966-67 ,, | 9.568 | 12.729 | 22.297 |
| 1967-68 ,, | 8.697 | 10.557 | 19 254 |
| 1968-69 ,, | 9.882 | 11.809 | 21.691 |
| 1969-70 (Revised) | 8.521 | 2.867 | 11.388 |
| Total | 59.151 | 64.628 | 123.779 |

(The State-wise distribution of this outlay has been worked out in a Statement which is appended as Annexure 'II'). It will be observed from the above table that the outlay for the programme has been considerably reduced since the beginning of the Fourth Plan period (1969-70). This is because the Central Outlay for this programme has been reduced by nearly 50% on the suggestion of the Planning Commission, who is of the view that the role of a Centrally sponsored scheme should be confined and limited to surveys, research, pilot projects and demonstration and that the funds for promotional programmes such as training, common facilities should be made available by the State Governments.

Training formed an important component of the promotional programme launched under the Rural Industries Projects Programme. The main objective of training was to impart skill to people to enable them to earn their livelihood through industry. Within this broad objective training was envisaged to serve a dual purpose. Firstly, it was expected to improve the skills of hereditary artisans through intensive and higher training in the use of improved tools, equipment and machinery and also improved techniques of production and new processes. Secondly, it aimed at imparting skill to new entrants to the labour force desiring to adopt industry as their main livelihood. In the latter case, the trainee does not possess even the elementary knowledge of a particular industry he desires to adopt. Intensive training of artisans in improved techniques of production with improved tools and equipment was designed to increase their earning capacity. Training of fresh entrants was aimed at reducing the pressure of population on land. Caution was, however, exercised, so that training facilities were not arranged in trades or industries which lacked potentials of development in particular area. Accordingly, training programmes were planned in accordance with the personnel requirements of industrial units—existing or proposed—in a particular area. Since the inception of the programme, 425 training schemes, covering nearly 47 trades, provided training facilities to over 37,000 persons. These schemes included Institutional Training Centres set up by the Projects and Parties and schemes for inplant training. The Trades covered by the training programme included pottery, coir, tailoring including ready-made garments, oilseed crushing, tanning, leather goods and footwear, general engineering works, brick and tile making, wooden toys, plaster of paris and clay toys, handloom weaving, soap making, electroplating, lac bangles, gur and khandsari, chalk and crayon, plastic goods, brushware, fruit preservation, agricultural implements, carpentry, smithy, bell metal works, rope making, dyeing and printing, etc. The artisan class who were provided training facilities in upgrading their skills have been substantially benefited by the training as it helped them in increasing their output through the use of modern equipment in which they were trained and and also improved the quality of their produce. It is not unusual to observe that the training to artisans in the use of improved equipment and techniques of production has resulted in the increase in their incomes by 200 to 300 percent. Among fresh entrants who were trained, a large number have been settled in the trades in which they were trained. Some have adopted other trades while information about some others is not available. By and large, training facilities provided have helped a large number of people. Some of the 425 training centres have now been closed as soon as they ceased to serve the purpose for which they were set up. Further, with the reduction in the Plan outlay for the Rural Industries Projects Programme, since the beginning of the Fourth Five Year Plan period, it has become necessary to reduce the number of training centres, purely from the budgetary point of view.

Another important component of the programme is the provision of common-facility services. The objective of this programme is to provide assistance to artisans and small industrial units, both in private sector as well as in the cooperative fold, in respect of such machines and operations as convert semi-manufactured articles into finished produce. Such machines or operations cannot normally be set up by the artisans or small units or cooperative societies on their own. Further, these centres were designed to assist in the processing and finishing of the semi-manufactured articles with a view to adding to their value. 161 such centres were set up in the 49 project areas, which covered a wide range of industries including general engineering workshops, fruit preservation, wool carding, carpentry, stone crushing, handlooms, tanning, milk chilling, bell metal, marine diesel engines, etc. A large number of artisans and small industrial units have utilised the services of these centres, though some of them were not properly planned and, therefore, were not very successful. Since the beginning of the Fourth Five Year Plan, a number of these common facility service centres had to be closed down due to financial problems as a result of the cut in the budgetary outlay for the Rural Industries Projects Programme. Here again, such centres have been closed which have ceased to serve much useful purpose.

### Choice of Industries

From the very inception of the programme, it was envisaged to develop mainly three categories in industries, viz., (a) industries based on local raw materials; (b) industries based on local needs or demand; and (c) industries for which specialised skills were available in the area. Accordingly, it was suggested to the States that while drawing up development programmes for the project areas emphasis should be laid on the development of these three types of industries. At the same time, it was made clear that this did not preclude development of other industries. Adequate data, through preliminary surveys was, accordingly, collected keeping in view these two aspects of development, and, therefore, it was not difficult to draw up programmes of development on these lines. The RIPC also drew up a list of 250 industries which were based on local raw materials, local needs and local skills from the findings of the survey reports which were circulated to various projects for guidance. Uptil March, 1970, 28683 units have been assisted in various forms. Of these, 15,159 were existing and were helped financially or otherwise to modernise and expand their activities. The remaining 13,524 units were set up for the first time through financial aid and technical and other assistance by the project organisations. These 28,683 units covered 125 types of industries classified in 8 broad groups (indicated below):

1. Agricultural processing and allied activities;
2. Industries based on forest produce;
3. Industries based on animal husbandry produce;
4. Building materials, ceramics and allied industries;
5. Textiles;
6. Chemical industries;
7. Engineering and allied industries;
8. Miscellaneous industries.

It is interesting to note that about 28% of the total number of units assisted under the programme, upto March, 1970 belong to the more modern small scale industries' group, using power and modern technology. Although, the group accounts for only 28% of the total number of units, it consumed 56% of the financial assistance rendered, accounted for 67% of the total investment made, yielded 52.2% of the gross value of production and generated 43% of the employment opportunities.

### Investment

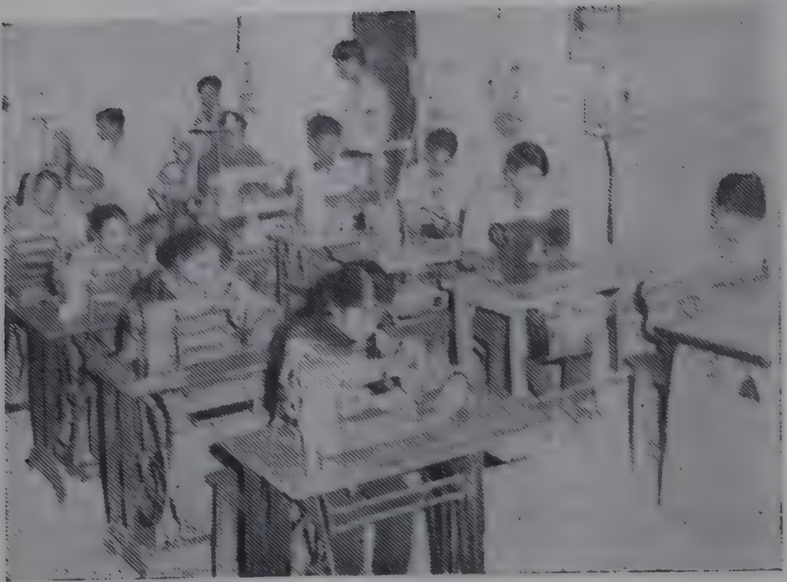
The new investment made in 28,683 units either for expansion of the activities of the existing units or establishment of new units has been estimated at Rs. 140 million. Of this, loans advanced from the project nucleus budget is of the order of Rs. 60 million. The Banks (State Bank of India and other Commercial Banks) provided credit facilities of the order of Rs. 23 million. The remaining 57 million were contributed by the units themselves, either from their own resources or through borrowing from their friends and relatives. It will, therefore, be observed that with the promotional efforts of advancing loans to industrial units of the order of Rs. 60 million, since the inception of the programme, savings of the order of Rs. 57 million have been mopped up.

### Employment

The most important objective of the programme was to generate larger employment opportunities in rural areas to provide, at least partly, solution to the growing problem of unemployment. The intensive promotional activities undertaken in these 49 areas have generated employment opportunities estimated at 1,15,625. This works to an average investment of Rs. 1,200 for every person. Although, this is comparatively a low figure, taking into consideration the normal investment ratio in small scale industries, it may be pointed out that about 72% of the total number of units are of more traditional type whose per capita investement is low.

### Wages

Although, there is very little data or information available in regard to wages, it has been the general impression of various officers who visited different project areas during the last several years that there is marked improvement in the earnings of the artisans and industrial units, as a result of various promotional measures taken in the projects. The major contributing factor in this regard is the technological changes brought about through training and supply of modern equipment on hire purchase or subsidy terms. Another measure which has resulted in increments to the earnings of the artisan class is the provision of loan assistance enabling them to increase their turnover. On the whole, the wage structure of both the self-employed artisan or the hired labourer in various industrial units in the project areas has considerably improved and is, in comparison, ahead of the position prevailing in adjoining areas.



*Picture shows a small unit in the rural area which uses 'appropriate technology' in production.*

**Production**

Of the 28,683 units assisted under the programme, a large number are new and had not reached the stage of production in March, 1970, when the review was undertaken. Accordingly, they did not produce any thing during the year 1969-70. The gross value of production of the remaining units has been estimated at Rs. 101·2 million during the year 1969-70. By the time the units, which had not gone into production in March, 1970, start producing during the course 1970-71, the volume of production will increase substantially.

While progress of the programme upto March, 1970 has been briefly reviewed in the preceding paragraphs, it might be useful to draw up lessons from experience gained during the last several years in working this programme. These will be helpful when it is decided to extend the programme throughout the countryside.

**Lessons of Experience**

The first lesson is that in a country, like India, which believes in freedom and democracy, where fundamental rights of ownership in property and profession are guaranteed by the Constitution and where mixed and free economy is encouraged, industries cannot grow where nothing else grows. In this context, selection of an area for development of modern and mechanised small scale industries assumes very great importance. A rural area which lacks essential facilities of infrastructure, such as, power, proper and adequate system of transport and communications, enterprise, etc. is not suitable for growth of modern, mechanised small scale industries. Another important factor governing the selection of an area is the existence of surpluses of local resources. The propriety of selection of only developed area for rural industrialisation may well be questioned from the point of view of social objectives of eliminating regional economic imbalances and discrimination, etc. That may be a valid argument as far as social aspects are concerned, but they do not provide answers to economic considerations particularly to the question of economic viability of a unit. It has been observed that in project areas where social and economic overheads, such as power, communications, transport and enterprise were absent or inadequate more modern mechanised units could not be started with the result that traditional type of industries with less efficient traditional technology had to be tried. This created marketing problems and necessitated grant of subsidies and rebates. In such cases the concept of 'area development' assumes great importance. Under this approach the industrial plan will be supplemented by development of social and economic overheads.

Another important lesson relates to the choice of industries. Since economic viability cannot be compromised, selection of an industry is necessarily influenced and determined by economic considerations. In this context, broadly speaking, rural areas have an advantage over urban centres in the matter of processing locally available raw materials. Industries based on raw materials to be obtained from outside the area can be taken up, economically, only if the end-product is for local consumption. Keeping this broad concept in view, the Project organisations have encouraged as mentioned earlier also mainly two types of industries, viz. (i) those based on local raw materials; and (ii) based on local demand. Among the former, mention may be made of processing of agricultural produce including food and cash crops, canning of fruits and vegetables, mineral products, produce from animals such as milk, poultry, leather and forest produce, etc. The latter category includes agricultural implements, sheet metal works, repair and service engineering workshops, furniture, cycle parts, hand pumps, cutlery, handtools, building material, foundry and welding, petromax repairs, paints and varnishes, plastic goods, candles, etc. So long as these items are produced with the idea of local consumption, no marketing difficulties have arisen. It is, therefore, evident that such industries have scope in rural areas provided these are mainly for local demand.

Proper and adequate planning of an industrial programme for the area is the *sine-qua-non* to achieve success. This calls for detailed surveys and studies to assess and determine the possibilities and potentials of various industries. Technical feasibility and economic viability of various industries will have to be carefully considered before any plan for their development in different areas is drawn up. Another important point to be taken into consideration in this regard will be to determine also the size of the units and the level of technology to be adopted. For this purpose appointment of efficient, enthusiasitic and qualified personnel is essential to man the project organisation. The experience has been that in areas where the project officer and his team of other officers was competent, efficient and capable to take initiative and had drive and imagination, the programme was well planned and equally well implemented. In such areas a large number of successful units have come up without any problems of marketing, etc.

Technical assistance and adoption of appropriate levels of technology are equally important. Two important measures were introduced in this regard in the project. The first related to the provision of training facilities in the use of more modern and mechanised equipment and also in techniques of production. As mentioned earlier, 37,000 artisans were trained in all the project areas. The second measure taken in this regard was supply of improved and modern equipment to artisans thus trained, either on hire-purchase terms or on subsidised basis. This has yielded very good results in as much as few marketing difficulties have been experienced. The evolution of intermediate or appropriate levels of technology is, however, a different matter. While some work has already been initiated in this regard such as the pilot experimental small scale cement plant in Panchmahals Project in Gujarat State, the question of establishing Appropriate Technology Unit with a view to identifying or evolving appropriate levels of technology for rural industrialisation, is still under active consideration.

Enlightened enterprise plays a very important role in the industrial development of a country. Such enterprise is either absent or shy in rural areas. This is understandable because the majority of rural population, dependent on agriculture with small size of holdings, can afford very little surplus for investment in industries. Further, absence of an industrial climate makes those few, who could invest, shy away from industry, a field about which they are completely ignorant. Although, the State Governments have established some industrial units on their own in rural industries project areas, they have experienced difficulties because of various reasons. Cooperative form of organisation has also been tried. Here again, the success has not, however, been to the desired extent. In such a situation, private enterprise has to play a major role in the development of dispersed and decentralised sector of industries. Enterprise has, therefore, to be imported from outside the area mainly from urban centres at least for initial period. This is not likely to materialise unless the entrepreneur from outside is compensated for locational disadvantages of rural areas. Offer of some incentives, for at least a limited period, becomes relevant in this connection.

The success or otherwise of any programme in general and rural industrialisation in particular depends, to a large extent, on the personnel responsible for planning and implementation. Proper and careful selection of personnel, therefore, assumes great importance. Apart from essential academic qualifications and experience, the other criteria for selection should be the existence in a person of imagination, drive and missionary spirit. These faculties would often surmount many difficulties and problems to achieve the objective. Industrialisation of rural areas is a pioneering work calling for detailed knowledge of the area in which one has to operate, patient exploration of the possibilities of starting new ventures and improving the existing ones. It also requires considerable perseverance, grit and drive to see each scheme through its various stages before it is put on the ground. There are often no clear guidelines and it may be necessary to think out different alternatives and select one or two and make a start. Therefore, the first maxim in this regard is to start with a strong faith that the thing can be done. This programme is a very interesting field for work which will test the mettle of the people involved in it and bring them a sense of adventure. It will ultimately prove rewarding in spite of occasional disappointments.

**Transfer of the Programme**

The programme remained under the administrative control of the Planning Commission at the Centre upto the end of December, 1967, when, on the recommendation of the Administrative Reforms Commission, it was transferred to the Ministry of Industrial Development. It remained in the main Ministry under Commissioner for Industrial Cooperatives from 1st January, 1968, to 31st March, 1970. It has been transferred again to the Development

Commissioner, Small Scale Industries from 1st April, 1970.

**Fourth Plan Proposals**

In August, 1968, the Ministry of Industrial Development prepared proposals for the Fourth Five Year Plan for this programme. The proposals envisaged continuation of the programme in the existing 49 projects and taking up of another new 200 projects, in a phased programme, in the Fourth Plan period, at a cost of Rs. 300 million. The approach and the strategy to be adopted during the Fourth Plan period was drawn up taking into consideration the various lessons of experience of working of the programme during the previous years as also mentioned above. The new approach of strategy is definitely an improvement over the previous ones and includes shift in emphasis on certain aspects of the programme, more particularly to extension services, preparation of project reports, institutional financing, research and surveys, etc.

Unfortunately, the Planning Commission did not agree with the proposals of the Ministry and suggested that no new projects be taken up during the Fourth Plan period. The Planning Commission is of the view that the role of the Centre in the Centrally Sponsored Scheme should be limited to pilot projects, demonstration, surveys, research and staff. The funds for working out development programmes, such as training, common facilities, advance of loans, marketing etc., according to the Planning Commission, are to be provided by the State Governments from their own resources. Accordingly, the Plan outlay even for the continuation of the existing projects has been reduced nearly by half, which necessitated closure of many promotional activities and virtual stoppage of advancing loans by the projects for investment. The position has partly been retrieved by the State Bank of India agreeing to finance industrial units in the project areas under a special liberalised scheme started from January, 1970. While this will, to some extent, remove the difficulties arising out of the cut in the outlay for the Fourth Five Year Plan period, the programme is passing through severe strains and difficulties for want of adequate funds, particularly at a time when it has reached a crucial stage and is on its way to achieve the objective for which it was launched.

**New Strategy**

Subsequent to the transfer of the programme from the Ministry of Industrial Development to the Development Commissioner Small Scale Industries Organisation, a quick review of the programme was undertaken and a new strategy to foster a quicker growth has been evolved. This includes organisation for Extension Services in the Projects through the project staff and the Small Industries Service Institutes, preparation of project reports on various industries indicating their technical feasibility and economic viability in the context of the prevailing conditions in a particular area, intensive efforts to push through State Bank of India's liberalised scheme for financing industrial units in Rural Industries Project areas and the decision to supply certain scarce and imported raw materials. In fact, this programme has now been placed in the mainstream of the small scale industries development.

It might be interesting to note that the intensive efforts made in regard to State Bank's financing industrial units in the Rural Industries Project areas, since 1st January, 70, upto August, 1970, as many as 2,760 units were provided credit facilities of the order of Rs. 6 million by the State Bank of India under this scheme. By the end of the year, it is expected that the sanctioned credit limit might go up to 10-15 million.

## ANNEXURE I

### List of areas selected for the Rural Industries Projects

| Sl. No. | Name of the State (1) | Areas Selected (2) | District (3) |
|---|---|---|---|
| 1. | Andhra Pradesh | 1. Ananthapur | Ananthapur |
| | | 2. Nalgonda | Nalgonda |
| | | 3. Narsaraopet | Guntur |
| 2. | Assam | 1. Gauripur | Goalpara |
| | | 2. Mizo Hills | Mizo Hills |
| 3. | Bihar | 1. Buxar | Shahabad |
| | | 2. Dumka-Raneshwar | Santhal Parganas |
| | | 3 Nawadah | Gaya |
| | | 4. Pusa | Darbhanga |
| | | 5. Ranchi | Ranchi |
| 4. | Gujarat | 1. Bhuj | Kutch |
| | | 2. Godhra | Panchmahals |
| 5. | Jammu and Kashmir | 1. Anantnag | Anantnag |
| | | 2. Kathua | Kathua |
| 6. | Kerala | 1. Alleppey | Alleppey |
| | | 2. Kozhikode | Kozhikode |
| 7. | Madhya Pradesh | 1. Bhilai | Durg |
| | | 2. Bhind | Bhind |
| | | 3. East Nimar (Khandwa) | East Nimar |
| | | 4. Sarguja | Sarguja |
| 8. | Madras | 1. Nangueri Taluk | Tirunelveli |
| | | 2. Omalur Taluk | Salem |
| | | 3. Sriperumbundur Taluk (Tiruvellore) | Chingleput |
| 9. | Maharashtra | 1. Latur | Osmanabad |
| | | 2. Sangamner | Ahmedanagar |
| | | 3. Vengurla | Ratnagiri |
| | | 4. Wardha | Wardha |
| 10. | Mysore | 1. Bhadravati | Shimoga |
| | | 2. Dharwar-Hubli | Dharwar |
| | | 3. Tumkur | Tumkur |
| 11. | Orissa | 1. Barpali | Sambalpur |
| | | 2. Jajpur | Cuttack |
| 12. | Punjab | 1. Malerkotla | Sangrur |
| 13. | Rajasthan | 1. Churu | Churu |
| | | 2. Nagaur | Nagaur |
| 14. | Uttar Pradesh | 1. Deoband | Saharanpur |
| | | 2. Ghazipur | Ghazipur |
| | | 3. Mauranipur | Jhansi |
| | | 4. Phoolpur | Allahabad |
| | | 5. Tarikhet | Almora |
| 15. | West Bengal | 1. Baraset | 24-Parganas |
| | | 2. Durgapur | Burdwan |
| | | 3. Siliguri | Darjeeling |
| | | 4. Tamluk | Midnapur |
| 16. | Goa | 1. Goa | Goa |
| 17. | Himachal Pradesh | 1. Part of Mahasu | Mahasu |
| | | 2. Palampur | Kangra |
| 18. | Manipur | 1. Manipur Valley including Sadar Hills | Manipur |
| 19. | Tripura | 1. Tripura North | Tripura |

## ANNEXURE II

| Sl. No. | States/Union Territories | Expenditure during 1962-63 to 1969-70 (Rs. million) Grants | Loans | Total |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |
| 1. | Andhra Pradesh | 4.655 | 5.960 | 10.615 |
| 2. | Assam | 2.676 | 0.510 | 3.188 |
| 3. | Bihar | 7.728 | 4.297 | 12.025 |
| 4. | Gujarat | 2.152 | 2.566 | 4.718 |
| 5. | Jammu and Kashmir | 0.785 | 0.645 | 1.430 |
| 6. | Kerala | 3.055 | 8.532 | 11.587 |
| 7. | Madhya Pradesh | 3.490 | 4.999 | 8.499 |
| 8. | Maharashtra | 3.620 | 3.912 | 7.532 |
| 9. | Mysore | 3.317 | 3.116 | 6.433 |
| 10. | Orissa | 1.352 | 4.754 | 6.106 |
| 11. | Punjab | 2.919 | 2.639 | 5.558 |
| 12. | Rajasthan | 1.752 | 4.071 | 5.823 |
| 13. | Tamil Nadu | 4.886 | 5.349 | 10.235 |
| 14. | Uttar Pradesh | 5.172 | 6.587 | 11.759 |
| 15. | West Bengal | 5.069 | 2.455 | 7.524 |
| 16. | Himachal Pradesh | 3.004 | 2.147 | 5.151 |
| 17. | Manipur | 0.740 | 0.817 | 1.557 |
| 18. | Tripura | 0.675 | 0.417 | 1.092 |
| 19. | Goa | 2.102 | 0.855 | 2.957 |
| | TOTAL | 59.151 | 64.628 | 123.779 |

# RURAL INDUSTRIES PROJECTS

## A BOLD NEW STRATEGY

## Facts At A Glance

The programme of intensive development of small scale industries in selected areas, known as the Rural Industries Projects Programme, was initiated in 1962-63 under a centrally sponsored scheme. On an average, each project area covers 3 to 5 community development blocks and a population of .3 to .5 million, except in the six areas where the projects cover the entire districts.

The following facts present a glimpse of the Programme with regard to its coverage and contents:

### I Coverage

| | |
|---|---|
| Number of Projects | 49 |
| Number of C.D. blocks covered | 237 |
| Number of villages covered | 34,073 |
| Total area covered (in Sq. Kilometres) | 158,982 |

### II Expenditure

(1962-63 to 1969-70)

| | |
|---|---|
| Grants | Rs. 61.443 million |
| Loans | Rs. 67.451 million |
| Total | Rs. 128.894 million |

### III Employment Created

(Cumulative Number of Persons)

| | |
|---|---|
| 1964-65 | 32,090 |
| 1965-66 | 48,775 |
| 1966-67 | 68,798 |
| 1967-68 | 79,705 |
| 1968-69 | 95,000 |
| 1969-70 | 115,625 |

### IV Industrial Units Financed from Project Nucleus Funds

| *Year* | *Existing units* | *New units* | *Total* |
|---|---|---|---|
| 1964-65 | 1,575 | 1,458 | 3,033 |
| 1965-66 | 2,564 | 2,289 | 4,853 |
| 1966-67 | 4,119 | 2,929 | 7,048 |
| 1967-68 | 2,681 | 1,754 | 4,435 |
| 1968-69 | 2,870 | 2,925 | 5,795 |
| 1969-70 | 1,844 | 1,843 | 3,687 |
| Total | 15,653 | 13,198 | 28,851 |

### V Institutional Finance

(a) Under the liberalised scheme of the State Bank of India specially introduced in the Rural Industries Projects from January 1, 1970, credit limits of the order of Rs. 7.5 million had been sanctioned to 3,000 small units upto the end of August, 1970.

(b) Under the normal scheme of the State Bank of India credit facilities totalling Rs. 23.0 million had been made available to 1,822 units upto 31st March, 1970.

### VI New Investment Made

| *Year* | *Amount* (*Rs. million*) |
|---|---|
| 1964-65 | 11.880 |
| 1965-66 | 25.663 |
| 1966-67 | 17.810 |
| 1967-68 | 23.167 |
| 1968-69 | 32.565 |
| 1969-70 | 23.575 |
| Total | 134.660 |

### VII Value of Production

| *Year* | *Amount* (*Rs. million*) |
|---|---|
| 1964-65 | 8.870 |
| 1965-66 | 32.055 |
| 1966-67 | 47.075 |
| 1967-68 | 70.000 |
| 1968-69 | 100.000 |
| 1969-70 | 101.200 |
| Total | 359.200 |

### VIII Training Programme

| *Year* | *No. of training centres* | *No. of persons trained* (*cumulative*) |
|---|---|---|
| 1964-65 | 261 | 5,963 |
| 1965-66 | 425 | 17,494 |
| 1966-67 | 428 | 22,410 |
| 1967-68 | 418 | 27,268 |
| 1968-69 | 400 | 31,725 |
| 1969-70 | 342 | 35,325 |

### IX Common Facility Service

| *Year* | *No. of Common Facility Centres* (*cumulative number existing at the end of the year*) | *No. of units assisted* |
|---|---|---|
| 1964-65 | 124 | 1,487 |
| 1965-66 | 161 | 7,000 |
| 1966-67 | 145 | 16,756 |
| 1967-68 | 137 | 18,392 |
| 1968-69 | 125 | 21,000 |
| 1969-70 | 121 | 19,885 |

### X Pattern of Investment

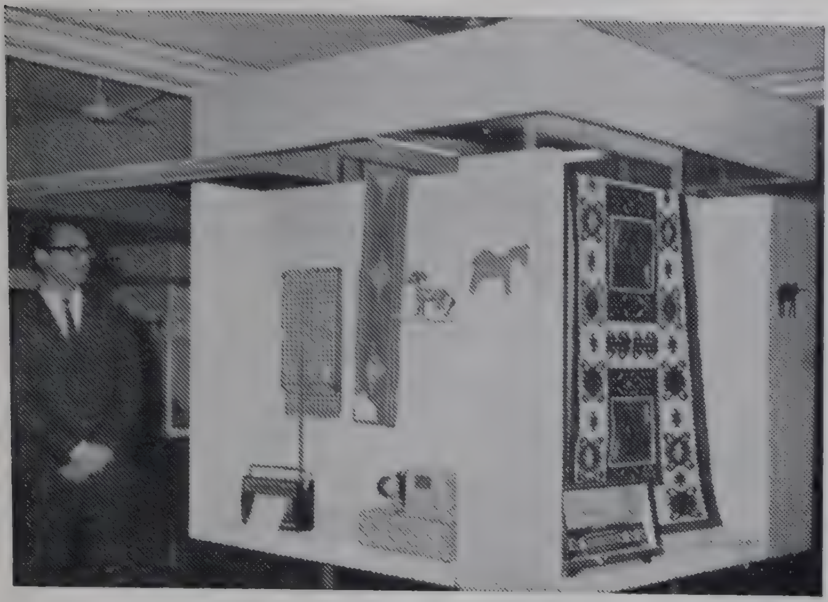
| | (*Rs. million*) |
|---|---|
| Total new investment. | 134.660 |
| Loans from Projects Funds. | 67.451 |
| Loans from State Bank of India etc. | 23.000 |
| Money invested by entrepreneurs from their own sources. | 44.209 |

### XI Pattern of Development

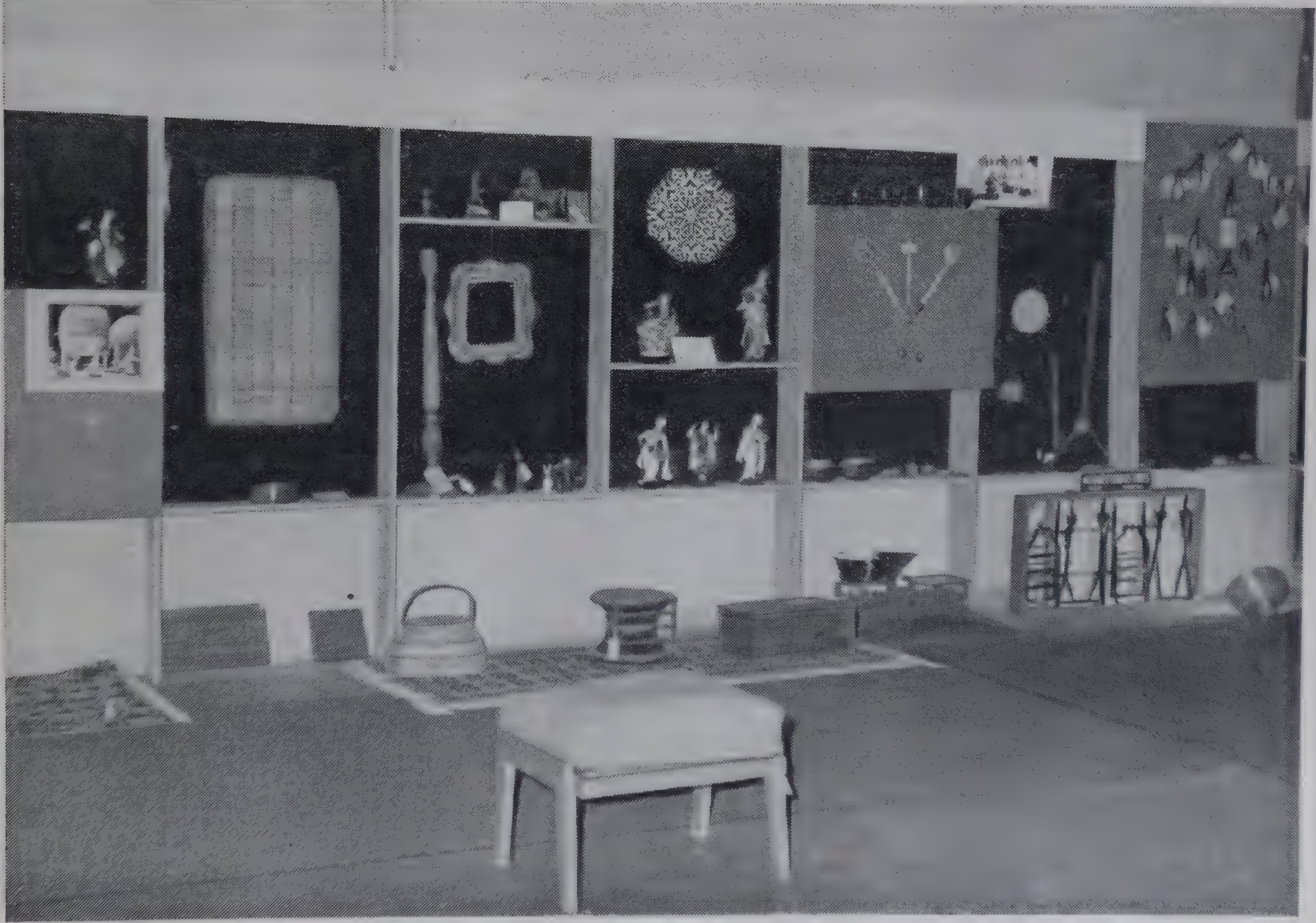
(a) 28% of the total units assisted belong to more modern types of small scale industries using power and modern machinery. They claimed 56% of the financial assistance and 67% of the total investment yielding 52.2% of the gross value of production and generating 43% of the employment opportunities.

(b) The industrial units assisted in the Project areas, cover 125 types of industries classified in the following eight broad groups:—

1. Agricultural processing and allied activities;
2. Industries based on forest produce;
3. Industries based on animal husbandry produce;
4. Building materials, ceramics and allied industries;
5. Textiles;
6. Chemical industries;
7. Engineering and allied industries; and
8. Miscellaneous industries.

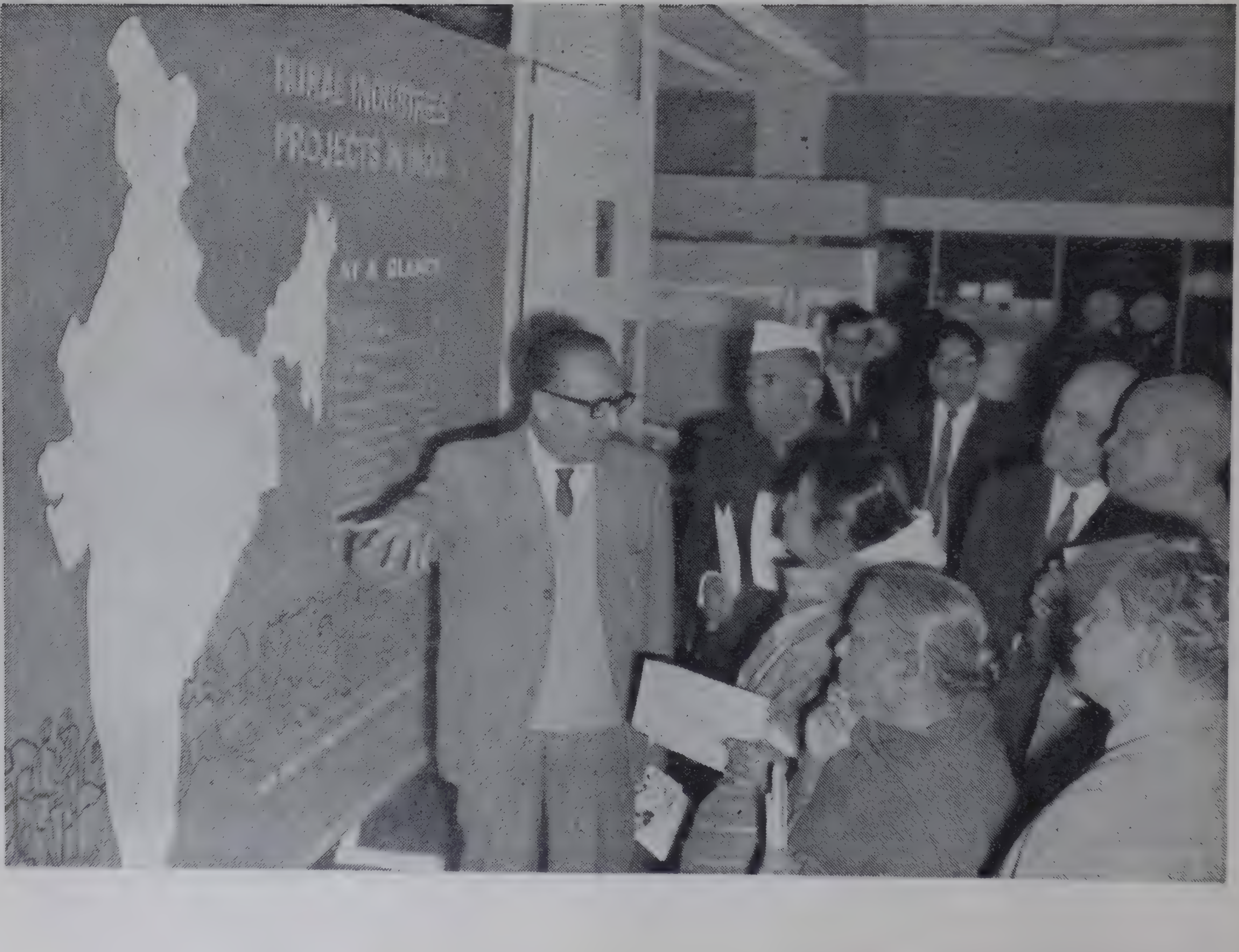


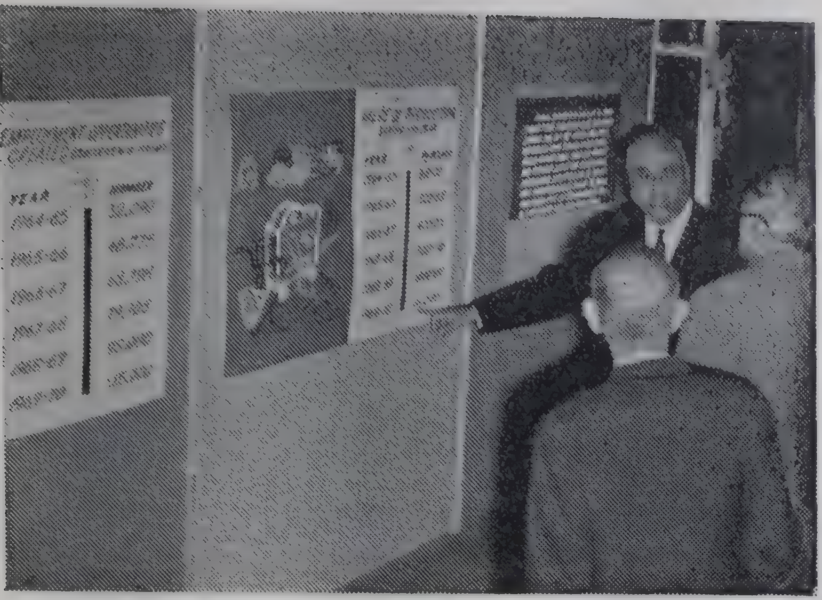
*On view are Products Manufactured in the 49 Project Areas at the Exhibition of RIPC recently held*



*The Planning Commission, Government of India, The Ministry of I D & I T, The DC (SSI) and the State Governments are all enjoined in this great endeavour.*

# A PAGEANT OF THE EXHIBITION





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ATTRACTED PERSONS
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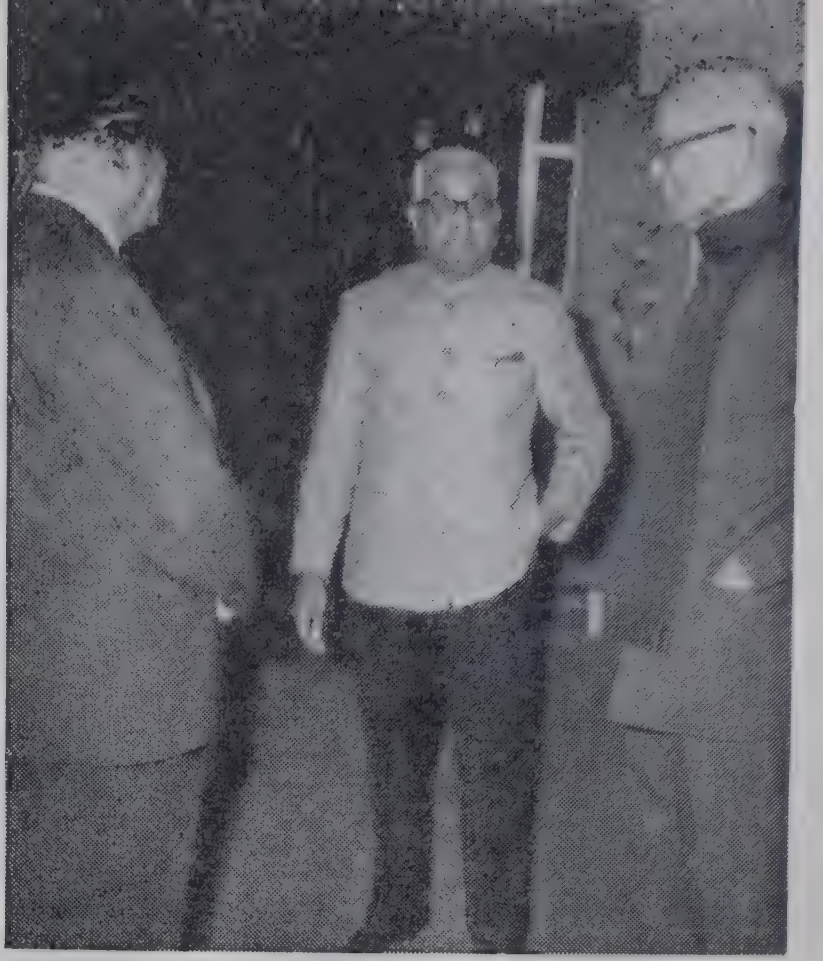
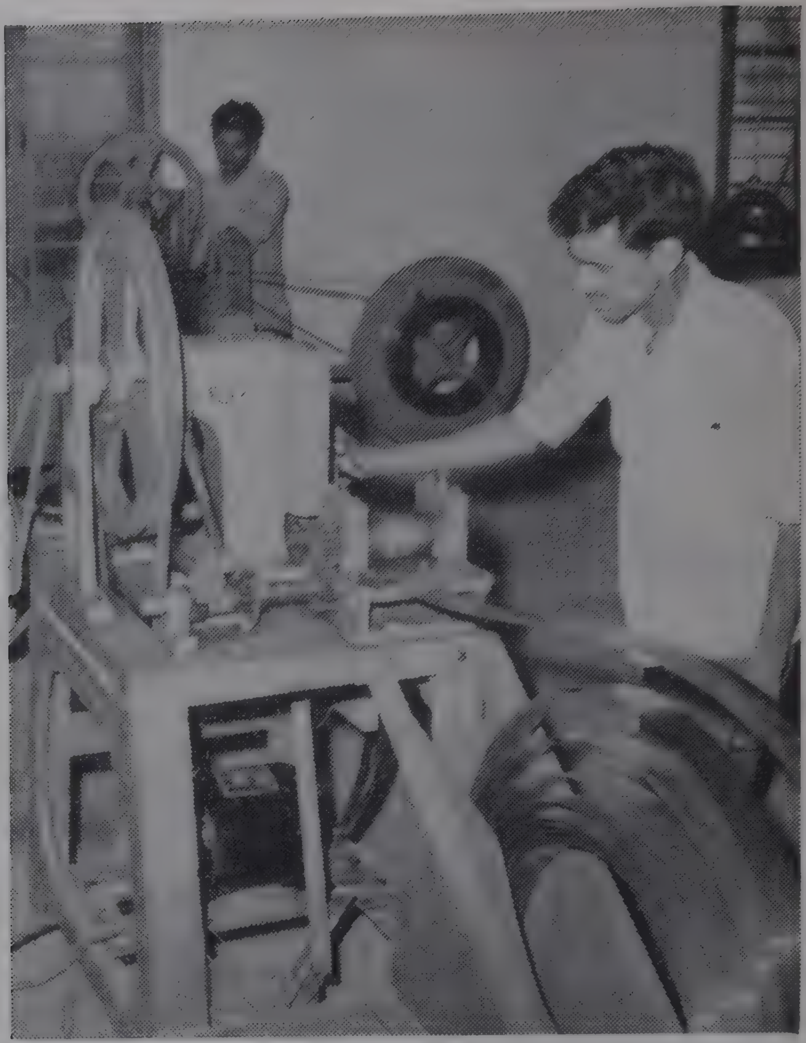


# RURAL INDUSTRIES

# PROJECTS AT WORK



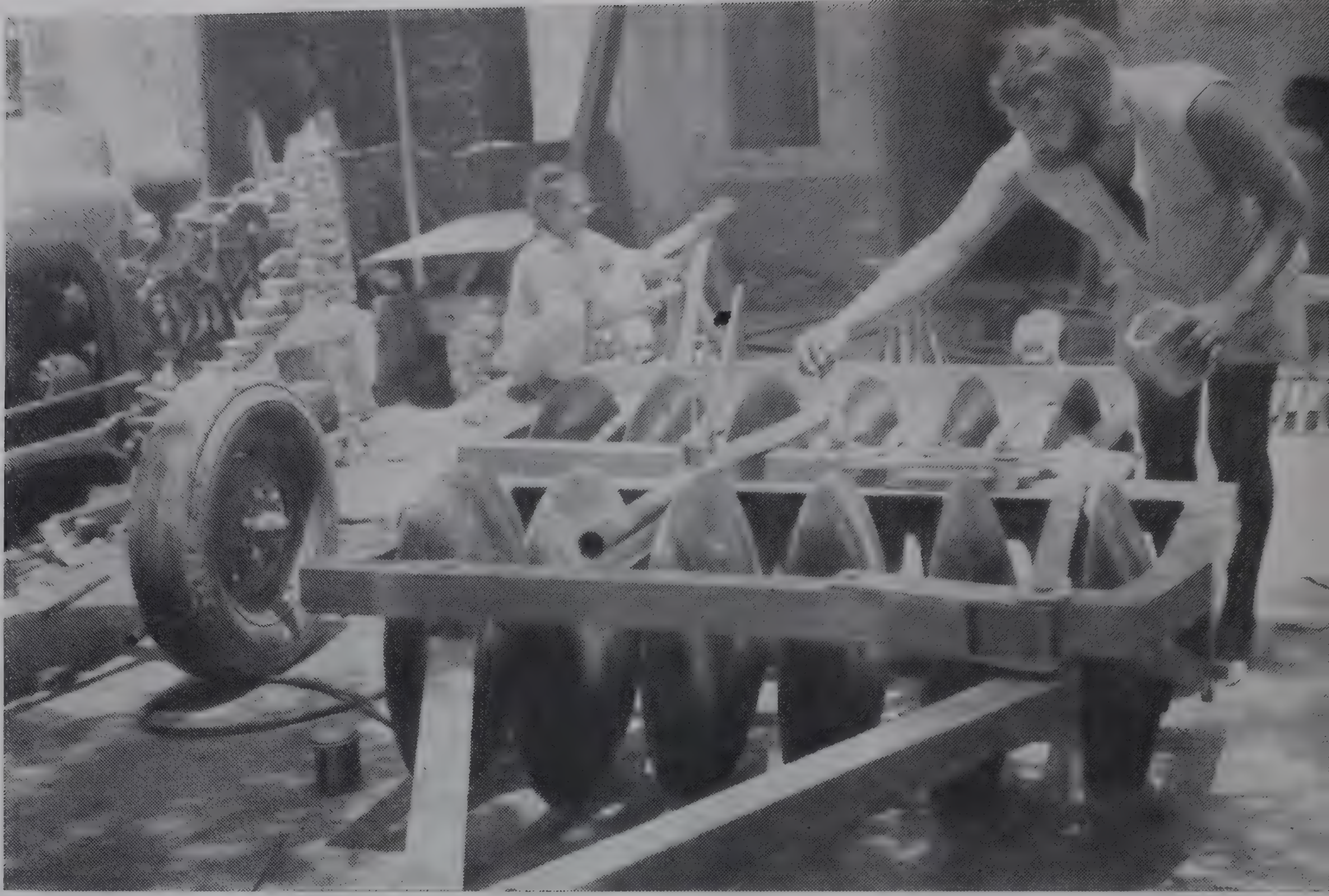
↑ *Manufacture of bandsaw blades in a hilly project*

←

*In many project areas roadside workshops have sprung up for servicing of tractors and pumping sets, etc.*

*This practitioner in indigenous medicine has installed machinery to prepare attractive tablets, etc. according to present day demand.* →

*An industrial extension centre where sophisticated electrical goods are manufactured.*

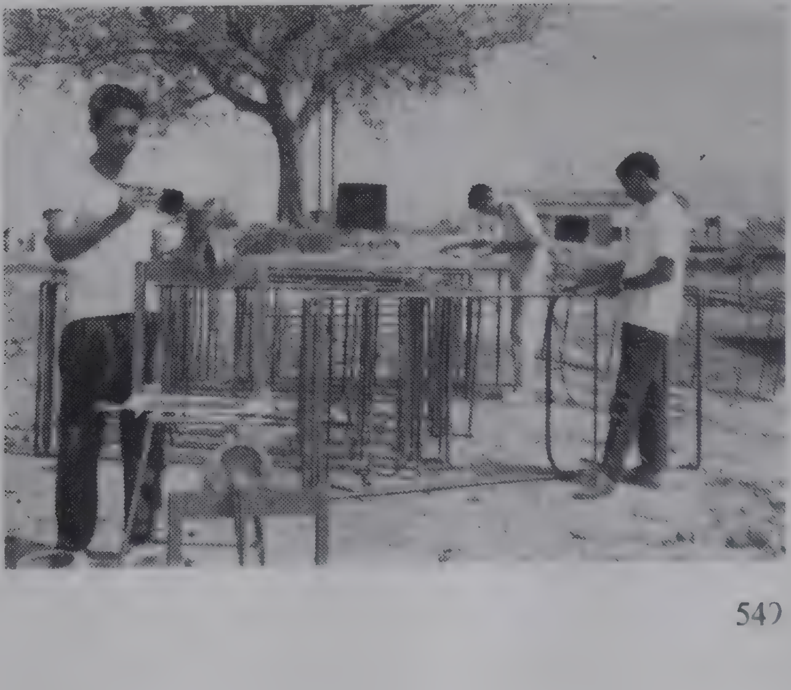


*Technological transformation : These hereditary blacksmiths who were previously making very ordinary agricultural implements, have now started fabricating modern farm tools. (Malerkotla Project)* ↑

←

*Handloom weavers have been provided with improved fly shuttle looms.*

↑ *Artists' easels : These wood workers were previously making ordinary wooden items. But now they make easels and other materials required by urban markets.*



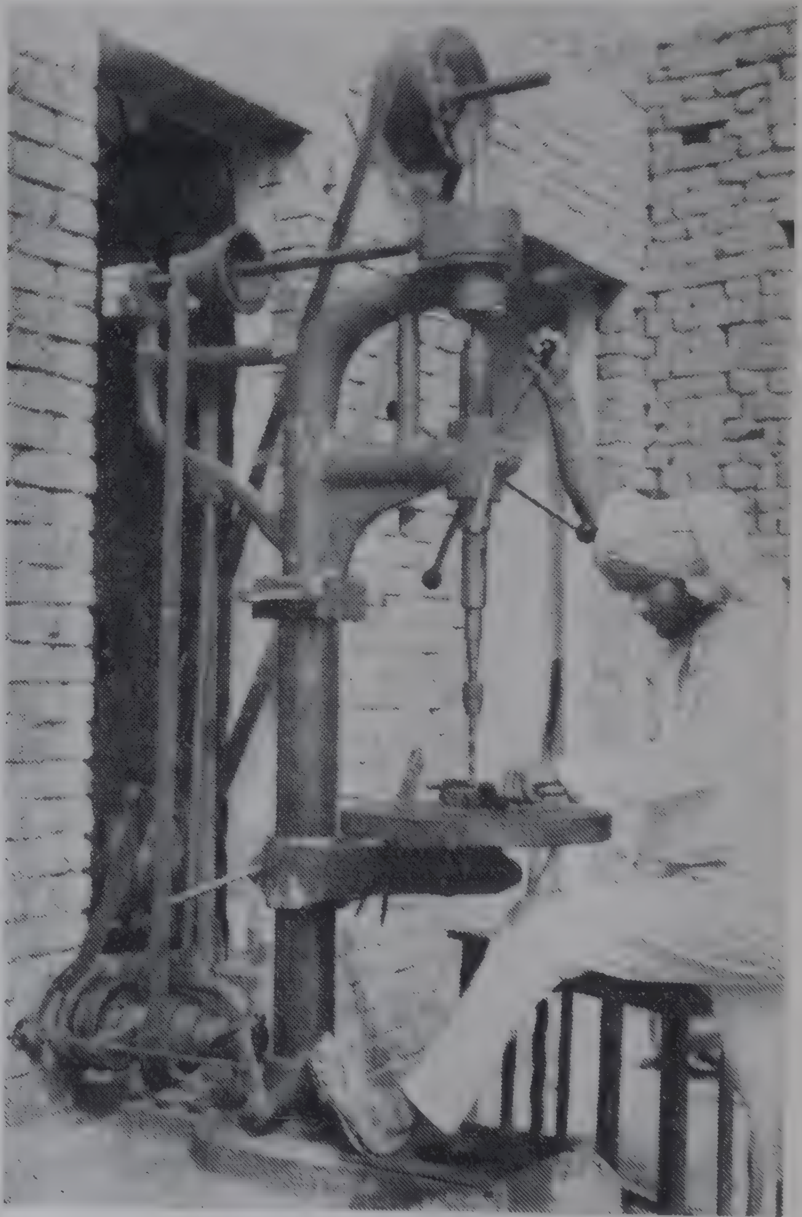
→

*An open air workshop for manufacturing steel furniture (Ghazipur Project)*

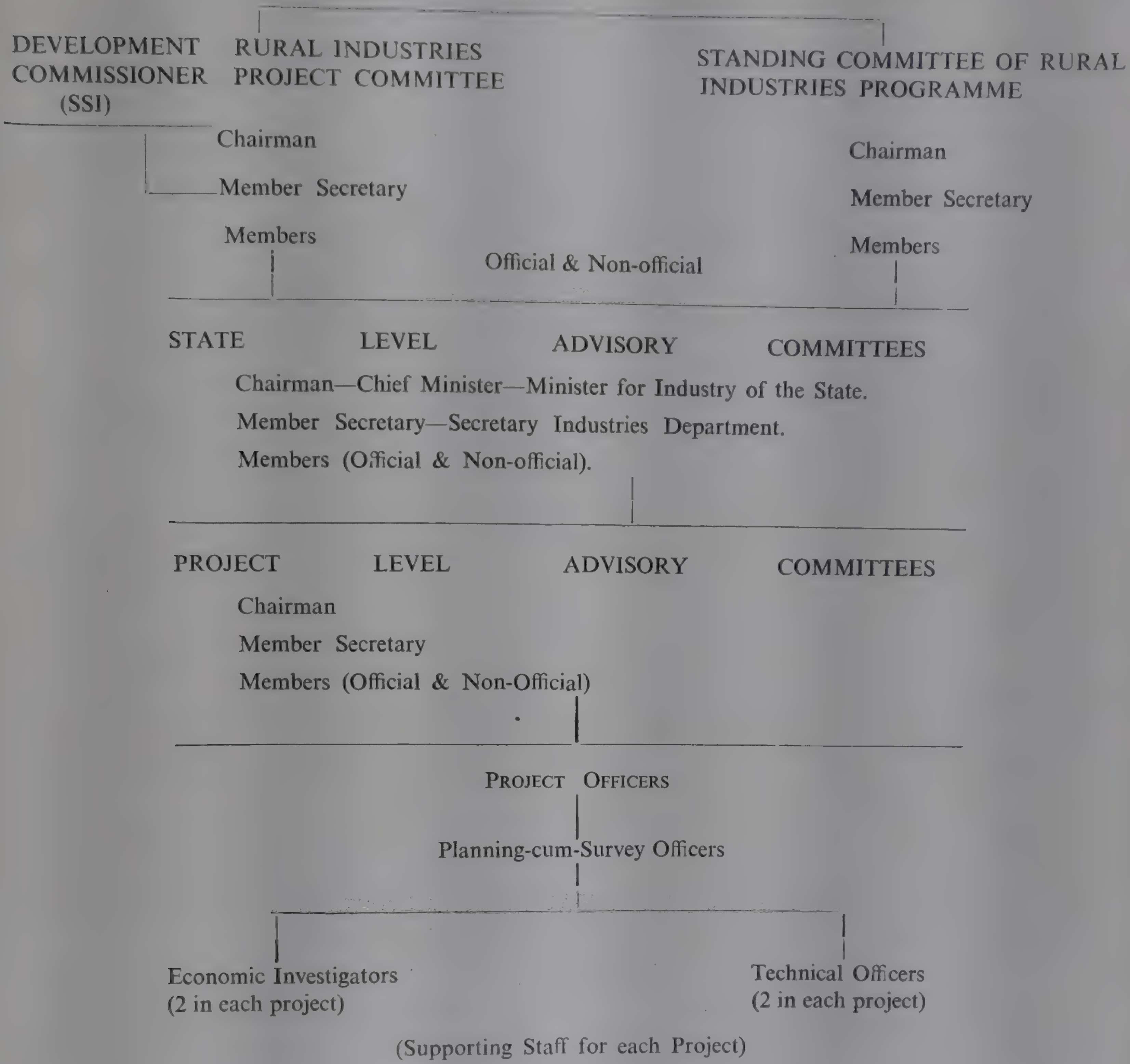
*Even villagers show preference for modern types of footwear (Mahasu Project)* ←

*This teenager has set up a small modern workshop in his village for repair of agricultural machinery (Malerkotla Project)* ↓

*A Cottage type unit manufacturing fountain pens (Deoband Project)* ↓



## ADMINISTRATIVE STRUCTURE OF RURAL INDUSTRIES PROGRAMME


DEVELOPMENT COMMISSIONER (SSI)
RURAL INDUSTRIES PROJECT COMMITTEE
Chairman
Member Secretary
Members
STANDING COMMITTEE OF RURAL INDUSTRIES PROGRAMME
Chairman
Member Secretary
Members
Official & Non-official
STATE LEVEL ADVISORY COMMITTEES
Chairman—Chief Minister—Minister for Industry of the State.
Member Secretary—Secretary Industries Department.
Members (Official & Non-official).
PROJECT LEVEL ADVISORY COMMITTEES
Chairman
Member Secretary
Members (Official & Non-Official)
PROJECT OFFICERS
Planning-cum-Survey Officers
Economic Investigators (2 in each project)
Technical Officers (2 in each project)
(Supporting Staff for each Project)

# ENTREPRENEUR

## THE CORNER-STONE OF INDUSTRIAL DEVELOPMENT

(Parts I, II & III)

# SUCCESSFUL ENTREPRENEURS

## PART ONE

## They Come From All Walks of Life And They Belong To One Adventurous Group—THE INDUSTRIALIST

### CHALASANI DUTT

*Agriculturist becomes Industrialist*

Shri Chalasani Dutt (30) of M/s. Ravi Industries, B-2, Industrial Estate, Vijayawada had the privilege of coming in contact with Shri G.D. Naidu, a famous industrialist of Coimbatore from whom Shri Dutt had the initial advice and assistance to start an industry. This was complemented by the officers of the SISI, Hyderabad who not only provided him with the basic information on different types of small scale enterprises but also took him to one of the small enterprises engaged in the production of Allen screws. It was only in 1961, after Shri Dutt visited the International Fair at Delhi, that he decided to start M/s. Ravi Industries. The unit which is a partnership firm, is manufacturing precision turned parts and its investment at present is nearly Rs. 0.6 million. It provides employment to 20 workers.

The National Small Industries Corporation limited provided him with machinery worth Rs. 0.14 million on hire-purchase basis. The Extension Centre of the SISI at Vijayawada helped him in the initial stages to overcome the teething troubles like fabrication of certain parts and dies, etc. Shri Dutt came in touch with M/s. Motor Industries Co. Ltd., Bangalore who agreed to accept his unit as their ancillary for the supply of precision turned parts. The satisfaction he gave to his principals in supplying the initial orders encouraged them to depend on this unit permanently for the supply of these parts and components.

The unit which started only in a car garage shed, has since shifted to a newly-built shed in the Industrial Estate at Vijayawada. This concern which was started in 1962 with an investment of Rs. 162,000 has now got an investment of Rs. 0.6 million with an annual profit of nearly Rs. 175,000.

Shri Dutt who during the International Industries Fair at Delhi was very much impressed by the Skoda automatic lathe machines, has a keen desire to visit M/s. Skoda Factory in Czechoslovakia to study the modern production and maintenance techniques. He also plans to start a unit for the reclamation of used lubricating oil in collaboration with the Indian Institute of Petroleum, Dehradun.

### J. BHUIYA

*Journalist takes to Industry*

Shri J. Bhuiya of M/s. Assam Canvas Craft Industries, Industrial Estate, Gauhati, feels that only the personal quality of entrepreneur makes a lot of difference and paves the way for the birth of a successful industrial unit. He has proved this philosophy through the establishment of a unit for the manufacture of tarpaulins and other canvas and proofing materials. In 1960, when he started his unit with three employees and an investment of only Rs. 30,000, his annual production for the same year was only for Rs. 10,000. Such was the progress he had made that his investment, employment and annual sales in 1967 rose to Rs. 0.3 million, 300 workers and Rs. 1 million respectively. He is not only a successful industrialist today but is also an important member of various official and non-official organisations concerned with the development of small scale industries. Shri Bhuiya is Secretary of the All India Manufacturers' Organisation, Gauhati Branch, and he is also associated with the local educational institutions.

Shri Bhuiya, once a journalist and conductor of rural programme from AIR, Gauhati, had to face a lot of difficulties in achieving his present position. In the very first year when he started his industry, he had to face a serious crisis and personal difficulties in his family. However, with courage and determination he gradually came out of the woods. The unit got regular assistance from the Small Industries Service Institute, State Bank of India and other similar agencies.

### KAMLESH KUMAR MALDAHIER

*Banker becomes Industrialist*

Shri Kamlesh Kumar Maldahier, B.Com., C.A.I.I.B., A.I.B., F.R., Econ. S., F.F.C.S., F.C.C.S., A.M.B.I.M. (Lon.) was apparently destined to become a banker or a business magnate. In fact, he was in a banking career until 1959 when he started a small industry in the name of M/s. Linker Private Ltd., Patna with a small capital and few employees. Starting with the manufacture of conservancy equipment, he has steadily built up an industry and added to his line of manufacture allied equipment for agricultural, constructional and transportation equipments such as concrete mixers, trolleys, trailers and tankers.

His unit which started on a very modest scale less than a decade ago has now an annual turnover of nearly Rs. 1.5 million and it employs nearly 100 workers. The conservancy equipment manufactured by this unit have been highly commended by the Central Public Health Engineering Research Institute, Nagpur. Most of the important Municipal Corporations have had, at one time or another, purchased their requirements from this small scale unit. He gratefully acknowledges the help and assistance he got from the SISI, Patna by way of technical assistance and guidance.

It is the first unit in the State where the SISI conducted an in-plant study and made very useful suggestions. The unit has also been assisted in procuring orders from various Government Departments, Central as well as State.

### A.N. AHUJA

*Engineer establishes Radio Factory*

Shri A.N. Ahuja, 52, had his engineering studies at Karachi as back as in 1935. He had set up his factory in 1951 in Delhi. A second factory, the largest in Okhla Industrial Estate, was started in 1957. M/s. Ahuja Radios today stand as pioneers and leaders in the field of audio electronics, producing high quality amplifiers, microphones, loudspeakers, tape recorders, ampligrams and school broadcast systems. Their amplifier ranges from 10 watts to 100 watts output and finds wide use in educational institutions and cinemas, tele-communications, commercial aviation, factories and auditoria. The products conform to national and international standards.

The substantial part of the total production is earmarked for exports to about twenty countries in the world—from Thailand in the far east to West Indies in the extreme west. Regular consignments go to Middle East and Europe. "Ahuja O" Brand has been well accepted in the world markets. Shri Ahuja had wide and varied experience and organizing ability. He, however, had been availing of the technical guidance and financial encouragement afforded from time to time by the Small Industries Service Institute, New Delhi, the National Small Industries Corporation Ltd., the State Bank of India and the Directorate of Industries. The unit today employs over 200 persons and had a well-equipped laboratory costing over Rs. 0.2 million for research & development. It is continuously engaged in evolving new techniques, and to take to the manufacture of such items as would lead to import substitution.

The firm is an active member of the Indian Standards Institution, the Productivity Council, the Delhi Society for Quality Control, the Engineering Export Promotion Council and the Indian Institute of Foreign Trade.

The unit today occupies a total of about 25,000 sq. ft. covered area. One of the factories is completely engaged in the making of top quality transformers which are built and treated to prescribed standards. A large new factory has been planned and is expected to come up shortly. It will lead to vast expansion of production, further improvement in products and more exports.

### N.S. KENKRE

*Employee in General Store becomes Industrialist*

Shri N.S. Kenkre's story as a small industrialist is one of long struggle against odds. With only a firm will to succeed, he plodded on and ultimately wrested what was his due.

Leaving the school, Shri Kenkre got himself employed in a general store in Margao. An innate urge to start something of his own in the engineering line prompted him to purchase odd bits of machinery whenever he came across any. Continuing to work in the store, he guided his brothers to operate the machines, though he had no training as to how to do it. Small parts for motor vehicles were being turned out. The turning point came when Shri Kenkre observed the process of manufacturing structural items while on a visit to units in Madras, Bangalore and Hyderabad during a study tour conducted by the Small Industries Service Institute, Margao, in 1963. Shri Kenkre returned with fresh ideas but still he lacked the knowledge to read blue-prints. Though past 50, he did not mind attending a course in blueprint reading at the SISI, Margao.

Shri Kenkre established a unit, viz. M/s. Kenkre Brothers, Kharaband, Margao for the manufacture of auto parts like gears, pins, bushes, U clamps, structurals like grills, trusses, steel windows, water storage tanks, steam boilers, acetylene generators, conveyor belts, hoppers, etc.

The unit is forging ahead with larger turnover year after year. It was Rs. 0.26 million in 1967 as against Rs. 0.2 million in 1965. Lack of adequate factory space and limited supply of power have stood in the way of expanding the unit.

"I shall move into the proposed industrial estate at Margao to overcome these difficulties. I have paid a deposit of Rs. 1,000 for the purpose," he said, when asked for future plans.

## PRAHLADBHAI KALIDAS PANCHAL

*Bidi Worker to Machine Builder*

Shri Prahladbhai Kalidas Panchal started his career as a Bidi worker at the age of 13 in his village on a meagre wage of 3½ annas per day.

Shri Prahladbhai was born in 1923 at Balol, a small village in Mehsana district of Gujarat. He hails from the blacksmith community. He lost his father when he was only 7. Owing to poverty, he could not get any education.

As he lost his father early, he had to seek his livelihood as a bidi worker. But in 1941, at the age of 18, he started apprenticeship in mechanical line in a workshop at Ahmedabad. After working for 5 years as a lathe man, he achieved a high proficiency in lathework. This prompted him to think of starting his own factory for manufacture of lathes. Ultimately, he decided to try his luck independently as a manufacturer of lathe machines. In 1947, he set up his own factory, M/s. Mistry Prahladbhai Kalidas Iron and Brass Factory in Ahmedabad for manufacturing lathes.

With the inception of the Small Scale Industries Development Organisation, he came in contact with the technical officers of this Organisation and started introducing new techniques and new devices in his lathes. But he was not content with his achievements. He wanted to produce better machines and also to diversify his line of production. He started producing pillar drilling machines and radial drills.

With the help and assistance of SISI, Ahmedabad, he developed a horizontal boring machine without any foreign collaboration and that too in the small scale sector. Although the machine is ungraded, it has been favourably acclaimed and accepted by the various users.

As a token of recognition for his technical capabilities and business acumen, he was sent to Russia as a member of a trade delegation.

Shri Prahladbhai is a unique example of a successful manufacturer in the small scale sector. He has no elementary education nor any technical and professional degree. His achievements show how success comes to a man bent upon to rise by dint of his determination and perseverance.

Shri Prahladbhai has been appointed as one of the members to serve in the Central Ancillary Committee.

## DIWAN SINGH

*Army Officer becomes Industrialist*

Capt. Diwan Singh, Managing Director, M/s. Kaydees Private Ltd., Auto Body Builders, Jammu, aged 48, comes of a distinguished Dogra Rajput family of Jammu and Kashmir. In keeping with the family traditions, he joined the army and saw military operations in Burma in World War II and later on in Kashmir in 1947-48. During his distinguished army career he was also on the staff of Jammu and Kashmir for about 20 years and continued to serve His Highness till latter's death.

When Capt. Diwan Singh laid the foundation of M/s. Kaydees Pvt. Ltd., its activities were mainly restricted to financing transport vehicles. During his operations as a financier for transport vehicles he came in contact with the officers of Small Industries Service Institute, Jammu and was advised to take to auto body building industry. Till then, there was no such enterprise in the State particularly in private sector.

The Institute provided assistance to Capt. Diwan Singh by preparing a technical scheme and plant lay-out drawings, and in selection of machinery and raw materials. After the machinery arrived, the technical officers of the SISI rendered on-the-spot assistance and guidance in the physical installation of machinery and equipment and virtually commissioned the factory. In fact, the story of Capt. Diwan Singh's enterprise is a story of SISI participation at all stages—planning and production.

In the successful completion of the scheme, right from the paper stage to the commissioning of the factory, the Directorate of Industries and Commerce, J & K State Financial Corporation and the State Bank of India also provided assistance in various ways.

The unit which went into production in September, 1967 is expected to attain full production capacity very soon. Nearly 80 persons are employed in the unit. The design and the quality of the bus bodies turned out by M/s. Kaydees Private Ltd. have earned wide acclaim from its customers.

His unit is the only one of its kind in the State and is depending entirely upon the indigenous raw material and machinery. It is an excellent example of close co-operation between the progressive entrepreneur and various governmental and semi-governmental agencies entrusted with the task of the development of small scale industries in the Jammu and Kashmir State.

## N.V. NAIDU

*Teacher for Physical Education enters Industry*

In May 1961, the Small Industries Service Institute, Trichur was conducting an intensive campaign for development of small scale industries in Alleppey. Shri N.V. Naidu, aged 48, paid a casual visit to the campaign venue. The subject of industry was Greek to him, but the latent entrepreneurial acumen took a leap when he had discussions with the officials of the Small Industries Service Institute. He immediately applied for metal working machinery worth Rs. 33,000 on hire-purchase basis from the National Small Industries Corporation Ltd.

Shri Naidu was a novice in the industrial field. The Small Industries Service Institute Extension Centre, Alleppey, was at once his friend, guide and philosopher. The Government of India Production Centre, Ettumanur also came to his assistance. He was advised at every stage. The unit M/s. Deepambika Industries, Alleppey, made a humble beginning in April, 1964. Shri Naidu's story is one of patience and perseverance. The sagacity in him coupled with continuing doses of technical counselling by the Small Industries Service Institute carried him forward. His unit manufactures various types of steel furniture. Its production during the last year was about Rs. 20,000. The unit is still in the growing stage. The overall investment is now Rs. 50,000 including land and building. He employs six persons.

Shri Naidu contemplates diversifying production activities and intends to take up manufacture of bicycle stands for which Small Industries Service Institute Extension Centre has already helped in making a die.

And, if anyone were to ask Shri Naidu about his hard-earned success, he could hear him say "but for the Small Industries Service Institute, I would not have known even what a lathe is."

## P.U. DEORA

*Repair Workshop becomes big Manufacturing Unit*

Shri P.U. Deora after doing his B.Sc., qualified for a Diploma in A.M.I.E.T. in 1954, started a training institute in motor driving and also a small automobile repair shop. In 1959, in consultation with the officers of the Small Industries Service Institute, Indore, he decided to start a unit allied to his earlier experience for the manufacture of automatic road traffic signals. His concern M/s. Traffico & Crosolite (P) Ltd., subsequently took up the manufacture of time switches and 'reflectorised' road signals as well.

The unit which had an initial investment of Rs. 50,000 has got a subscribed capital of Rs. 0.3 million now. The employment potential has also increased from 9 workers to 35 workers in a single shift. The Small Industries Service Institute, the State Bank of India, the Madhya Pradesh Financial Corporation have been assisting him from time to time. His own initiative and enterprise supplemented with the assistance received from these agencies has helped him to increase his annual savings from Rs. 5,000 in 1960-61 to Rs. 0.3 million at present. Shri Deora is proud of having completely eliminated the import content of his products from 85 per cent in the beginning.

Encouraged by the success in this enterprise, Shri Deora has floated two more private limited concerns—M/s. Ashok Progressive (P) Ltd. in Madras and M/s. Deora PU Cabñcon Mfg. Co. (P) Ltd., at Indore—for the manufacture of A.C.S.R. and A.A. Conductors with ISI Mark. Though only 35, Shri Deora has exhibited that technology can overcome traditions.

## HEGDE

*Salesman becomes Industrialist*

Shri Hegde of M/s. Shailendra Enterprises, Madras was working till 1956 as a trade representative of a German firm manufacturing heavy equipment. His confidence in his salesmanship was so much that he thought of starting his own manufacturing concern. With a small capital of Rs. 5,000, Shri Hegde started a small jobbing workshop in 1956. The main lines of manufacture were hand signalling items, automobile parts, sheet metal items and cutting tools. The success he achieved during the first year of working of the unit encouraged him to expand its activities.

With the help of the Small Industries Service Institute, Madras and the National Small Industries Corporation Ltd., M/s. Shailendra Enterprises today occupy a premier position, particularly as suppliers to the Government in the whole of the Southern Region. They had also the privilege of being the first small industrial unit to quote and secure an order in the global tender issued by the Railway Board in 1960. During the Chinese invasion, they were called upon by Ministry of Defence to manufacture precision gauges. They have also to their credit many components and parts produced for the first time in the country as import substitutes. Such was the reputation and all-round progress of the firm that it was nominated as a model industry in the Southern Zone by the State Bank of India. One of the proprietors of the firm was sponsored by the National Productivity Council for a short-term training course in the USA while the ISI selected this unit in a specification panel for an item manufactured by them. They are also the first in the manufacture of clicking knives for leather, textile and plastic industries in India. One of the leading Dutch firms has agreed to collaborate with this unit for the manufacture of technical springs for the use of instruments.

Though started in a small way, today the assets of the unit are valued at a little over Rs. 0.6 million. Today the unit provides employment to qualified engineers and 150 technicians and workers as against 5 workers employed in 1956.

## KIRIT M. MEHTA

*Plastics find way to Footwear*

Till recently, leather had its monopoly for the manufacture of footwear including chappals. Shri Kirit M. Mehta, a refugee from Burma, in partnership with Shri Pankaj D. Shah, made a debut in the footwear manufacture after quite a good deal of research and investigation and assistance from the Small Industries Service Institute, Bombay.

Initially when they were advised by SISI to set up a PVC chappal making unit in Bombay, they were confronted with the problem of getting the necessary raw material and a large size automatic injection moulding machine. M/s. Calico Mills (Plastics Division), Bombay, who were manufacturing PVC powder agreed to supply the raw material suitable for compression moulding but they could not guarantee that it could be successfully used for the manufacture of chappals as nobody had started using it for that purpose until then. However, as advised by the Small Industries Service Institute, Bombay, the unit was prepared to experiment and for that purpose the SISI workshop made available their compression moulding press. A suitable die was made and the experiment was started. It was after three months of continuous experiment that success was ultimately achieved in the correct moulding of PVC chappals by compression moulding. This success gave the necessary impetus to the party to set up the manufacturing unit known as M/s. Aryan Plastics which went into production at the end of 1965. Such is the success of the unit in the sale of its product in the market that they have made an application for patenting the manufacturing process.

M/s. Aryan Plastics started with a capacity of 200 pairs of chappals per day, employing 9 workers in a single shift. The turnover which was Rs. 0.1 million only in the beginning increased to Rs. 0.35 million in 1967. The firm has got an investment of Rs. 0.15 million and provides employment to 30 persons.

With perseverance, hardwork and sincerity of purpose, Shri Mehta and Shah have not only started this pioneer industry but also settled themselves in a manner that has made them forget the miseries of the past, following Shri Mehta's migration from Burma to India.

## C.P. SADASIVAIAH

*Political Worker sets up Industry*

Shri C.P. Sadasivaiah whose sole occupation till 1955 was taking part in politics, today occupies an important position in the gamut of small scale industries population in Mysore State. Once, when he happened to meet Shri K.L. Nanjappa now the Development Commissioner (Small Scale Industries) he was advised, rather forced to set up a small scale industry and to make it his regular source of income. Though reluctant, he acted on the advice of Shri Nanjappa and went to the Small Industries Service Institute, Madras for training in smithy workshop.

After training, Shri Sadasivaiah decided to join a local smithy workshop as a worker on a daily wage of 50 paise. This had its own effect and after some time, he realized that he too could start and manage a smithy workshop which he later did set up at Tumkur, his native place. Thus, M/s. Shiva Industries had its birth in 1956 with a bare capital of Rs. 160. Today, the factory has got an investment of more than Rs. 0.2 million with an annual turnover of Rs. 0.2 million. The production of the unit includes 69 varieties of agricultural implements. Such was the reputation of quality and performance of agricultural implments produced by this unit that they were proudly exhibited at the World Agricultural Fair held at Delhi and some of them were awarded first prize. These products were also exhibited and demonstrated in American pavilion during the National Agricultural Fair held at Madras. Our late Prime Minister, Shri Jawaharlal Nehru also once observed:

> "I was much impressed by these implements and even more by Shri Sadasivaiah who had started from very small beginnings and his enterprise and hard work built up this industry which does good service to the farmers."

At one time himself an ordinary wage earner on perhaps the lowest wage per day, Shri Sadasivaiah today provides employment to a large number of workers in his factory and the implements produced in his factory are helping the nation in increasing country's food production. At present, he has also set up a Polytechnic Institute for the manufacture of agricultural implements, first of its kind in India.

### C.M. MISRA

*Bank Employee becomes Industrialist*

Shri C.M. Misra, an Arts Graduate, started his career as a bank employee. Being interested in industry he joined as a partner with M/s. Aerovice & Engineering, Cuttack in 1957. He had then very little experience in industrial management. Since then, Shri Misra had been in frequent contact with officers of SISI, Cuttack to know the industrial potentialities of Orissa. He was supplied techno-economic information relating to various industries. In 1960, he left M/s. Aerovice and started M/s. Kalinga Cables—a unit for manufacture of electrical cables in a shed in the Industrial Estate, Cuttack.

Encouraged by the success of this unit and with the various technical and managerial help received from Small Industries Service Institute, Shri Misra started four more firms, M/s. Kalinga Transformers, M/s. Paradeep Engineers, M/s. Metal Cast Co. and M/s. Bharat Foundry, one by one.

These units were all started initially in a small way. The present capital investment in all these 5 units has risen to 2.0 million rupees, creating employment for 200 workers.

The versatility and dynamism of Shri Misra has enabled him to be a prominent member of the All India and State Organisations like All India Small Scale Industries Board, Orissa Small Industries Corporation, Cuttack Productivity Council, Indian Railways Equipment Purchase and Advisory Committee, SISI Advisory Committee, etc.

### SARWAN SINGH AND PARKASH SINGH

*Wage Earners become Owners*

It is not a myth but a fact that not many years back Shri Sarwan Singh Panesar was a die maker and his friend Shri Parkash Singh an electrician. Both were very much dissatisfied with their lot being mere wage earners and used to be envious of their counterparts who had turned into small entrepreneurs. They were, however, confident that they too could become small industrialists.

They were on the horns of a dilemma about the line of manufacture and were also hesitant to risk their hard earned savings. To their good luck, they met an officer of the Small Industries Service Institute, Ludhiana in 1956. He succeeded in pulling them out of their diffidence. His suggestion to manufacture bicycle frames, lugs and backstays was accepted by them. They went into the manufacture of lugs and backstays.

For the first two years, they passed through certain hardships. Their production was not upto their expectation on account of paucity of financial resources and also owing to lack of managerial know-how. The Small Industries Service Institute was approached for financial and managerial assistance. At the initiative of the Small Industries Service Institute, they obtained financial accommodation from the State Bank of India. Besides, on-the-spot management counselling rendered by the officers of the SISI improved their management practices. They also attended two of their training courses in Industrial Management. The techno-managerial guidance helped them in streamlining their industrial processes and practices and thus enabled them to overcome the shortcomings.

M/s. S.P.W. Cycle Industries, Ludhiana, the joint venture of these two industrious entrepreneurs are having, at present, a sales turnover of over Rs. 0.24 million. Beginning with an initial investment of Rs. 20,000, they have been able to raise their capital to Rs. 0.1 million. They are today the leading manufacturers of bicycle lugs and backstays in the State of Punjab and are supplying these items as original components to bicycle manufacturers.

### V.M. KAMANI

*Employee sets up own Small Industry*

Shri V.M. Kamani, a youngman, aged about 34 who was employed in Jaipur Metals & Electricals Ltd., Jaipur, lost his job due to general retrenchment of staff in the year 1963. After losing this job, he was on the look-out for an independent profession and sought the advice of the Small Industries Service Institute, Jaipur. Keeping his limited financial resources in view, he was advised to take up manufacture of small plastic items particularly plastic industrial components. Shri Kamani, who had abundance of initiative and drive made an independent market survey of his own and finally set up M/s. National Plastics, Jaipur for making compression moulded bakelite parts for water meters by hand-operated process. The unit was, of course, given the necessary guidance about machinery and raw materials for such items of manufacture by the SISI, Jaipur.

The unit was given intensive assistance for improvement of quality as also workshop facilities at the Institute for making suitable moulds which otherwise were not easily available in the open market. Special moulds were fabricated at the Institute Workshop for effecting supplies of some plastic components like bullet caps for Defence Stores. His unit has since made tremendous progress and its business has risen from a meagre sum of Rs. 2,500 in the year 1964 to Rs. 0.3 million at present. In view of large volume of orders placed on this unit, it was advised to instal an automatic plant and was assisted in getting necessary machinery on hire-purchase from the National Small Industries Corporation Ltd. The unit now possesses one indigenous automatic injection moulding machine and one imported automatic compression moulding machine. Shri Kamani now has his unit located in the Industrial Estate, Jaipur.

### SALIL SINGHAL

*Self-employment through Agro-Based Industry*

Shri Salil Singhal, born in 1946 in Kanpur, graduated in Political Science and joined his family business of road transportation. After a year, he visited USA for two months under the Experiment in International Living Programme. On his return, he observed that millions of tonnes of agricultural products were being destroyed by pests. He, therefore, decided to enter this industry. He availed of the various consultancy services run by the Small Industries Service Institute, Agra and got in touch with the Directorate of Industries also. With the active assistance of various agencies, he started production, ahead of schedule, in January, 1967. After a little experience, he applied for standardisation and received five licences from the Indian Standards Institution.

Shri Singhal, now 21, proprietor of M/s. Singhal Pesticides is engaged in the manufacture of B.H.C., D.D.T., Chlorodene, Aldrin and Endrine dusts and emulsion concentrates, fungicides and weedicides. He employs 80 persons and has an investment of about Rs. 525,000. Encouraged by the preliminary success of his venture, Shri Singhal is thinking of producing granular forms of insecticides, a comparatively new type of pesticides in India. He also believes that there exists an export potential for pesticides.

### P.C. PATERIA

*Graduate Engineer starts Transformer Unit*

Shri P.C. Pateria, a young electrical engineer of 30, after graduation in 1961, took training in a transformer factory. When he completed his training in the year 1963, he came to know that the Government agencies like SISI, NSIC, State Bank of India etc. are helping the small scale industries in their developments. This tempted him to start a small scale transformer unit of his own with the experinece he has gained. In 1963, he came to SISI to find out prospects of transformer industry and the assistance available to him from different Government agencies. After he came to know that there is good demand for the product and the Government was helping the small scale units with credit, marketing and technical assistance, he decided to start the factory and sought the assistance of SISI in preparing a scheme. SISI has given him all possible assistance in preparing the scheme and approving it. In the beginning of the year 1964, he started his factory M/s. East India Electricals at Calcutta alongwith other financial partners.

Technical Officers of SISI visited his factory very frequently and assisted him in erecting machinery and installing testing laboratory. He was also assisted in getting State Bank of India loan to the extent of Rs. 65,000.

In the beginning, the production of the unit was valued at about Rs. 10,000 per month. His own efforts and the guidance and assistance from SISI Calcutta helped him in improving the quality of the transformers. This enabled the unit to secure big orders from different State Electricity Boards despite keen competition from the large scale manufacturers.

Gradually as the demand increased, the unit was unable to cope up with it due to financial difficulties. The State Bank of India came to his rescue by financing the unit to the extent of Rs. 1.0 million. The present production capacity of the unit is about Rs. 0.25 million per month.

The progress of the unit has indeed been phenomenal. Starting with a capital of Rs. 0.1 million in a shed of 3,000 sq. ft. area manufacturing upto 200 KVA-11K.V. transformers in 1964, the unit today has a capital investment of about Rs. 0.6 to 0.7 million. The covered area of the factory is about 15,000 sq. ft. The unit manufactures transformers upto 2000 KVA-22 K.V.

# SUCCESSFUL ENTREPRENEURS

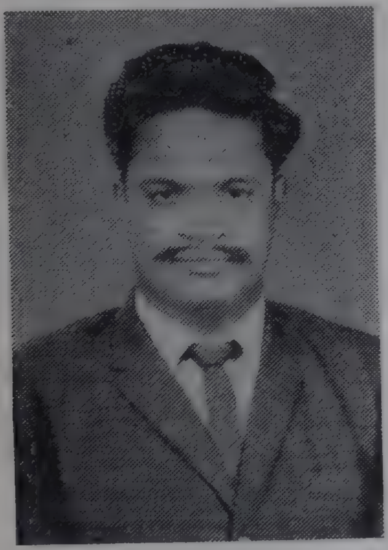
## PART TWO

## The Search for Quality

## SSIDO is Intensely on the Move to Create Small Entrepreneurs out of the Best Material Available in India through a Variety of Programmes

## THE EFFORTS HAVE PAID WELL

### V. RAMASWAMY



Shri V. Ramaswamy comes from a family of agriculturists. He took his B.E. Degree in Electronics and Communication Engineering from the College of Engineering, Madras. He is an Associate Member of the Institute of Engineers, India and also an Associate Member of the International Corporation of Engineers, USA.

After completing his academic studies he was engaged in research in the field of manufacturing Resistors. He has also undergone practical training in the Central Electro-Chemical Research Institute for the manufacture of Metal Oxide Film Resistors.

After completing a course for unemployed engineers in April 1968, he set up a factory under the name Tamil Nadu Electronic Components for the manufacture of electronic components and at present he is manufacturing Metal Oxide Film Resistors in technical collaboration with the Central Electro-Chemical Research Institute (CSIR), Government of India. Recently his small factory has entered into a collaboration agreement with Electronics and Radar Development Establishment, Ministry of Defence, Research Organisation, Government of India, for the manufacture of Reed Relay Bobbins.

Presently, the factory employs 14 workers and has an estimated turnover of Rs. 0.6 million.

### S.B. SINGH

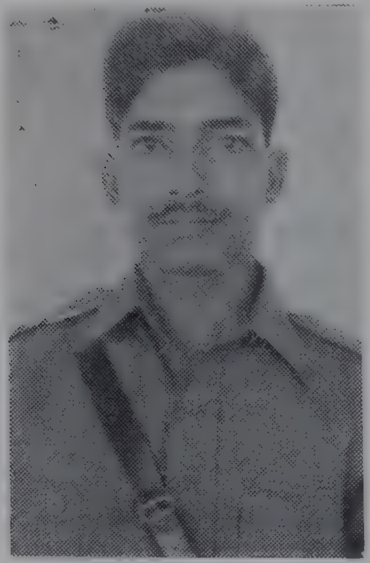
Shri S.B. Singh passed his engineering degree B.E. (Hons.) in Electrical Engineering from the Government Engineering College, Jabbalpur in 1968. On the advice from SISI Kanpur Shri Singh started a Machine Shop in June, 1969 as a Proprietory concern, with an initial investment of Rs. 7,000 only.

Within a span of only one year due to the enterprising spirit and continued guidance of SISI Kanpur, Shri Singh gained reputation as a production and jobbing engineer. During the same period his assets also increased from Rs. 7,000 to 15,000. The unit has now started manufacturing 'V' belt groove pullies and centrifugal pump spare parts for sale in the market.

Shri Singh is planning to manufacture relex valve, bands, flanges and other pipe fittings which are used for irrigation purposes. He is having plans ultimately to manufacture complete centrifugal pumps which have good scope in the market.

Shri Singh had also attended a management training course conducted by SISI Kanpur and is full of gratitude for the self-employment opportunity afforded to him by the small industries Organisation and other agencies in Uttar Pradesh.

## M.A. WADOOD



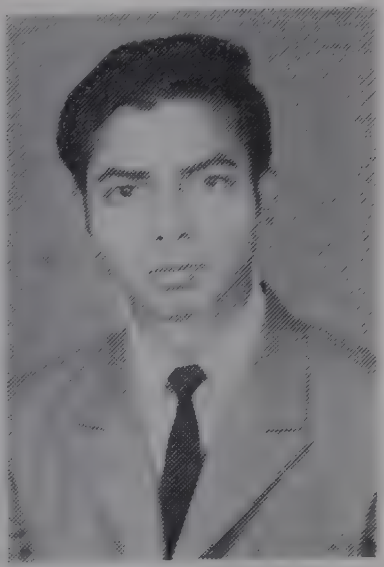
Shri M.A. Wadood hails from a family of agriculturists in Andhra Pradesh. In 1961 he joined the engineering college at Madras and took his B.E. degree from that college. Thereafter he worked for 5 years as a lecturer at the college of Engineering at Madras.

Drilling engineering is his specialization and he has developed the method of salvaging and producing the rock roller bits used in oil-well and tube-well drilling. These drill bits are presently imported from USA and USSR.

After undergoing a course during March-April 1968 in the SISI, Madras conducted for young unemployed engineers, he started his own industry for rock roller bits. At present he employs a dozen workers and his expected turnover for the current year is Rs. 60,000 (the industry is yet to complete one year).

The name of his factory is Rockwall Engineering Co. The factory is at 7, Pycrofts First Street, Madras-14 and the Regd. Office is at 113, Kodambakkam High Road, Madras-34.

## GUPTA, AKHIL KUMAR
## and
## SINGH, SUDHIR KUMAR



Sarvashree Gupta and Singh have joined hands to set up a small industrial unit after completing the Industrial Entrepreneurship Course conducted by the SISI New Delhi.

The two young engineers have floated a concern under the name of CHEMICO PLASTICS with a total investment of about Rs. 743,000. The Small Industries Service Institute, New Delhi has provided them very valuable help in the following matters:—

(a) In selecting the item and preparing a project report;

(b) In expediting their case with the NSIC for hire-purchase of machinery; and with

(c) Director of Industries for Land in Badli Industrial Area.

M/s. Chemico Plastics would be manufacturing Acrylic Sheets.

Shri Gupta comes from a business family. He secured B.E. (Mech.) from Regional Engineering College, Durgapur.

Shri Singh's father is in Government Service. He also secured B.E. (Mech.) from Regional Engineering College, Durgapur.

## MITTAL, SWADESH KUMAR

Shri Mittal, a young Engineer from M.N.R. Engineering College, Allahabad, joined Industrial Entrepreneurship Course of Small Industries Service Institute, New Delhi, to find avenues of self-employment. Today, he is a partner of Milko Refrigeration Co. (India). They are manufacturers of Refrigeration and Air-Conditioning Equipment. The unit was started with Rs. 30,000 as total capital.

Training at SISI and experience with Milko Refrigeration has encouraged him to start one more unit for which he is busy in preparing the project report. For his new unit he writes : "Biggest problem is to have Industrial Plot and Shed...." He is already on the job very earnestly. His dream of having his own factory to manufacture Deep Freezers and Brim Tanks may come true in due course of time.

### K. GEORGE THOMAS

Shri K. George Thomas completed his degree in Mechanical Engineering in 1967 at the age of 24. But the chances of getting employment were very meagre. He felt that his future was gloomy and dark. Also he had a hesitation to go back to the traditional profession of agriculture.

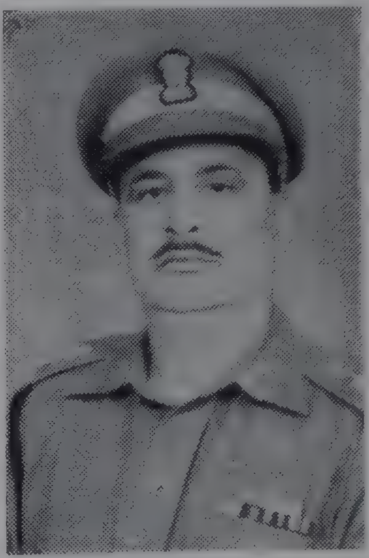
It was at that time, SISI Trichur was going to conduct a course for the technical personnel on "starting small industries". Shri George Thomas applied for that and he was admitted for the course. He says: "During one month's programme we had lectures on various topics by experts in the field and also by the officers of the SISI. We got the chances of visiting some units also."

By the end of 1968 he got a chance of entering into a partnership in an industrial concern. After the expensive education, his father with great difficulty gave him Rs. 2,500 to invest in the partnership concern. After a period of nearly 8 months, some of his friends and relatives came forward to help him and he started a small unit in the name of M/s. Mech. India Industries at Vytilla in Ernakulam with an investment of Rs. 25,000. This was inaugurated in May 1969. He started it as a jobbing workshop for steel fabrication jobs, general engineering works and automobile repairs. The Kerala State Electricity Board and some other Government departments entrusted their works to him.

He did not know how time passed because he was immersed in passing hurdles after hurdles in every aspect of the business like Financial Management, Personnel Management, Material Management and other fields. Being young and unexperienced, every problem was new to him. By this time he could also start the production of rubber rollers, steel furniture and automobile spares.

He is now employing 6 skilled persons and 3 apprentice boys, including a diploma holder in Mechanical Engineering. The State Bank of India has come forward to help him and also the State Industries Department has begun to co-operate with him and he expects to employ 6 more persons when the State Bank of India gives him full accommodation. His experiences have proved that even an inexperienced man can succeed in business.

### Col. G. S. SRIRAM



Grey haired, but plucky and dashing Col. G.S. Sriram is in a sense the epitome of what SISI can make of a man. He is a B.E. (Elec.) M.I.E., who held the position of Deputy Chief Engineer in the Indian Army and ended up as the General Manager of Madras Sappers Ex-Servicemen Rehabilitation Association in Bangalore a couple of years ago and is now re-living his vigorous and 'youthful' life as a small industrialist.

To quote his own words "I had been toying with the idea of having my own workshop particularly connected with electric gadgets since my boyhood". But his entry into the Defence service thwarted the idea for a time and the urge went underground as it were.

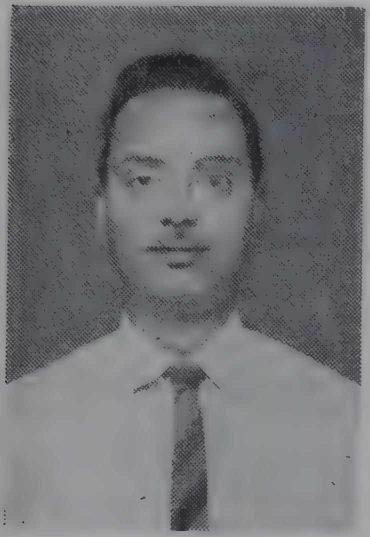
When Col. Sriram was the General Manager of the Madras Sappers Ex-Servicemen Rehabilitation Association, he noticed some production problems in its saw mills and wood-working factory and a third party brought him to SISI, Bangalore for assistance. The problems were competently tackled by the officers and the affairs of the factory were off the red soon. For Col. Sriram, it must have appeared as a miracle and precisely at that moment his 'idea in the under-ground' got better of the hold.

Soon he was out of the service and started frequenting the SISI for information on small scale industries. Financial assistance came from the Bank and technical know-how was supplied by SISI

Bangalore. Machines were also installed in his work-shed.

Col. Sriram has put in a little less than Rs. 250,000 to produce high tensile bolts and nuts, gates and grills etc. His unit is well established in the small scale sector and is likely to undergo some expansion shortly to turn out all types of high tensile bolts and nuts, fasteners and some prototype material.

## SHRI D. PRABHAKAR CHETTY



On the auspicious Dassera day of 1968, the foundation stone of M/s. Kumar Rubber Moulding Works was laid at B-86, Sanathnagar Extension, Hyderabad-18 (AP). The man behind this enterprise is Shri D. Prabhakar Chetty, a young Mechanical Engineer who got first class in his L.M.E. Examination. In between the day of laying down the foundation-stone by the Director, Small Industries Service Institute, Hyderabad and the commencement of regular production in 1970, Shri Chetty faced a number of problems and due to his enthusiasm and determination was successful in overcoming these difficulties.

Shri Prabhakar Chetty comes from a family engaged in trading and possesses business-acumen. Before venturing into his own enterprise, he worked in different capacities at Bharat Heavy Electricals Limited, Public Works Department and Electric Transformer and Equipment Company. It is an interesting fact that an exhibition organised by the South Central Railway in 1967 prompted him to manufacture rubber moulded articles. Since he did not possess requisite background in rubber technology, he gained practical experience by associating himself with a firm manufacturing rubber moulded articles. Shri Chetty, thus, gained the necessary confidence regarding the technical aspects of rubber industry. Being an enlightened entrepreneur, he attended three training courses organised by the Small Industries Service Institute, Hyderabad. These courses were on Possibilities of Starting Small Scale Industries, Marketing Management and Financial Management.

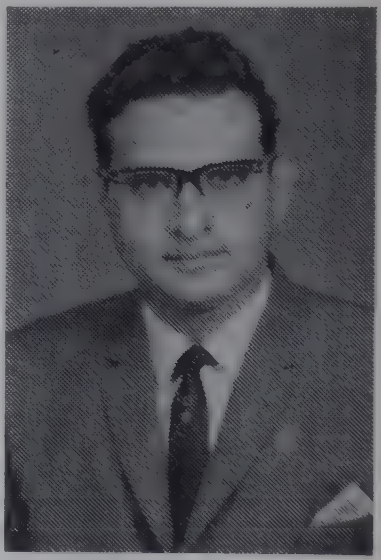
M/s. Kumar Rubber Moulding Works are growing strong day by day and getting very good orders for their products viz. Industrial and Automobile rubber goods. Although production commenced recently, they have gone into two-shift production and have provided employment to nearly 25 persons.

The total capital employed in the unit is Rs. 175,000 and the estimated annual production is worth about Rs. 400,000. It is worth mentioning here that the unit has developed and is manufacturing Timing Gear Belts, which is an import substitution.

Shri Chetty was sanctioned loan by the State Bank of India, Hyderabad, under the Technocrats' Scheme with the support of the Small Industries Service Institute and the Directorate of Industries, Government of Andhra Pradesh, Hyderabad. It is one of the earliest schemes sanctioned by the Bank under the Technocrats' Scheme.

Shri Prabhakar Chetty faced many difficulties in getting his scheme sanctioned but his determination helped him in ironing out all the problems. His success is a source of inspiration to many other young engineer entrepreneurs who want to stand on their own feet instead of knocking from door to door for some job or the other. Messrs Kumar Rubber Moulding Works has a bright future under the able leadership of Shri D. Prabhakar Chetty.

## MAJOR N. PRASAD



Major Prasad comes from a Trading Community and graduated in 1962 in B.E. (Mech). During the month of July, 1963 he joined the army as short service Commissioned Officer and left in May, 1969 after the expiry of emergency. Since long his cherished desire was to set up an industry of his own where he could employ others rather than be an employee. After he left the army, his parents wanted him to join some service but he was very much determined to set up his own industry and he was prepared to face any hardship to achieve his objective. He came to know about the SISI Patna which could guide him in setting up some small enterprise. He was advised by the SISI Patna to take up fabrication work where he could utilise his skill with great advantage. Accordingly, a scheme was prepared by the SISI for the manufacture of thrashers and air-brake switches of 33 K.V. and he got the proposed unit registered with the Directorate of Industries, Bihar. He then applied for a loan of Rs. 175,000 under Technicians' Scheme. His application was recommended by SISI Patna and he was sanctioned a loan of Rs. 175,000 by the State Bank of India, Patna which enabled him to set up his unit named M/s. Agro Industries, Khagaul Road, Dinapur. His unit executes job works of the Bihar Electricity Board from time to time, besides undertaking other manufacturing and fabrication activities.

# PART THREE

# SUCCESSFUL ENTREPRENEURS

## Small Industry Exports too And These Entrepreneurs CONQUER NEW FRONTIERS

### M/s. S.N. ROY & CO., CALCUTTA

This is an encouraging trend, no doubt, that students in our country are thinking to make their way into business than dreaming for white-collar jobs.

Shri Roy, while a B.Sc. student of the local college was seized with the idea of manufacturing "Sealed Type Hot Plates", imported and used by the General Electric Company of India Ltd.

To give a concrete shape to his idea, he approached the Small Industries Service Institute, Calcutta for technical details. Under the guidance of the Institute, Shri Roy prepared a prototype of the item and the product was tested in the Institute's laboratory. The test report was "low insulation resistance due to existence of impurities in magnesium and absorption of moisture by magnesium oxide."

To improve upon the first attempt, a second sample was made by the technical staff of the Institute in its laboratory using pure magnesium oxide and binding material was also used to avoid absorption of moisture. The test report of the second attempt was very satisfactory. The sample was appreciated and accepted by the G.E.C. and Shri Roy got orders to manufacture the item regularly.

Thus the unit of M/s. S.N. Roy and Co. was born. This unit now supplies regularly Sealed Type Hot Plates to G.E.C.

Continuous assistance and encouragement of SISI are helping Shri Roy to add more items like Baby Cooking Ranges in his Production line.

Shri Roy is an example of what a man of small means can do with a never-ending source of creative imagination.

### M/s. ENERGY ELECTRICAL CORPORATION AHMEDABAD

Shri P.B. Joshi, the managing Partner of the unit, after completing his studies, has joined as a Civil Engineering Supervisor in M/s. T.K. Gajjar & Sons, Bombay. Subsequently, he joined the Standard Electrical Cooperative Society Ltd. as the Production-cum-Sales Manager and thereafter was elected as Director of the firm.

In the year 1962, he started his own industry in Ahmedabad as a partnership concern in the name of Energy Electrical Corporation. The unit had been employing 13 workers and produced all types of flourescent lamp ballasts (chokes) in the range of 4 to 100 watts; all types of ballasts for H.P. and M.V. lamps in the range of 65 to 1,000 watts; transformers for sodium vapour lamps; electrical bells, buzzers, etc.

In the year 1966, Shri Joshi underwent the Management Appreciation Course conducted by the Small Industries Service Institute, Ahmedabad and through the Institute's guidance, started exporting the electrical Ballasts and other electrical items through Gujarat Export Corporation Ltd. They have already exported goods valued over Rs. 68,000 to Iran, Iraq, Bahrein and East African countries. Presently they have confirmed orders worth Rs. 480,000 on hand and new orders woth Rs. 570,000 are to be confirmed.

In short, Energy Brand Chokes have become famous not only in India, but also in overseas markets. They have received proposals, from Iran and East African countries for setting up units to manufacture these items.

## M/s. ARUN ENGINEERING WORKS, BELGAUM

M/s. Arun Engineering Works, Belgaum, started as a small automobile repairing workshop in 1947. In 1957, its proprietor-owner late Bubusaheb Kakatkar succeeded in manufacturing RCA Engine Crank for M/s. Cooper Engineering Works which paved the way for success of the unit as manufacturers of Crankshafts, which were supplied regularly to M/s. Kirloskar and Copper Engineering Groups of Companies. Recently, the unit has substantially expanded their capacity and also diversified their production by taking up the manufacture of machine tool accessories, hydraulic jacks, hydraulic presses and piller-type drilling machines.

With the assistance of the Small Industries Service Institute, Bangalore, the firm took up the execution of a challenging export order through a reputed export house for the supply of 100 pieces of Crankshafts valued about Rs. 20,000 to Syria, as per drawings and specifications supplied by the foreign buyer. The SISI Extension Centre, Belgaum, provided all-out assistance in executing the export order in time. The success of M/s. Arun Engg. Works could be judged not only in executing the trial order, but also getting the second order for the supply of another consignment of sixty Crankshafts from the same foreign buyer.

## M/s. INDO-GERMAN PLANTATION MACHINERY CO. LTD., BANGALORE

M/s. Indo-German Plantation Machinery Co. Ltd., Bangalore, started as a small scale unit, is now a public limited company manufacturing both power operated dusters and hand-operated sprayers, thus offering a complete range of plant-protection equipment. The success of the Company is the result of untiring efforts made by its Managing Director, Shri V.V. Iyer, who started the 'Plantation Machinery Company' in 1959 for the manufacture of manually operated sprayers and spare parts for the imported machinery. This firm was taken over in 1965 by a newly floated company, M/s. Indo-German Plantation Machinery Co. Ltd., in technical collaboration with M/s. Carl Platz to manufacture motorised sprayers. In less than 3 years, the company's share of power-sprayers in Indian Market has touched 60 per cent of the total demand.

At the instance of the Small Industries Service Institute, Bangalore, the Company entered into export market by quoting against an Iranian tender. The export order materialised and soon 60 JAWAN type motorised Knapsack sprayers valued at Rs. 28,000 were shipped to Iran. The SISI Bangalore also spproached the State Trading Corporation for exploring export opportunities for the products of the firm. The Company was able to receive another trial order from Bangkok for 10 Jawan type sprayers through the STC.

M/s. Indo-Greman Plantation Machinery Co. Ltd. have also booked a demonstration stall in the Indian Exhibition in Colombo. As an export drive, they had taken up an advertisement campaign in Ceylon, Malaysia, Singapore and Indonesia to popularise their products.

## M/s. BHARGAVA SCIENTIFIC CORPORATION, AJMER

Bhargava Scientific Corporation, Mahatma Gandhi Marg, Ajmer, owned by Shri Kishan Kumar Bhargava, M.Sc., started production of industrial thermometers with the encouragement of the Small Industries Service Institute, Rajasthan, Jaipur, in July, 1962. Technical and other assistance to this enterprise has been given by the aforesaid Institute at Jaipur and the SISI Extension Centre for Thermometer Training at Solan from its very inception. The unit has also been actively assisted by the Export Promotion Cell of the Institute by way of providing useful foreign market information, particulars of foreign importers of Industrial Thermometers, methods of exploring foreign markets, effective handling of foreign enquiries, calculation of export prices and methods of executing export orders.

Whenever Bhargava Scientific Corporation had any difficulty in the procurement of Capillary Tubing, Mercury, etc., efforts were made by the Institute to help them get over such bottlenecks. The progress of the unit has undoubtedly been gradual. Its production in 1963 was Rs. 21,500 worth, which increased to the value of Rs. 70,000 in the year 1967.

M/s. Bhargava Scientific Corporation with the trade mark "BISCO ' for its poducts have been supplying IP & ASTM Thermometers to various Government Research Laboratories including Defence Research Laboratory, Kanpur, Central Mechanical Engineering Research Institute, Durgapur, Indian Oil Corporation, Barauni and Oil and Natural Gas Commission, Ankleshwar. Its products have been tested at the National Physical Laboratory, New Delhi, Defence Research Laboratory, Kanpur, and were found satisfactory.

The enterprise has taken interest in export of its products and has been able to export Thermometers of the value of Rs. 5,000 to Kenya, Singapore and Dar-es-salam during the year 1968. This export performance indicates a definite upward trend, since the value of Thermometers exported during the year 1967 was Rs. 756 only.

Shri Bhargava has by now gathered sufficient experience in the manufacture of quality thermometers. It is expected that he will be in a position not only to increase his present output of 1,500 thermometers per month, but will also be able to attain impressive targets in the field of export promotion in the near future.

### M/s. BHARTIYA AUDYOGIC PRATISTHAN INDUSTRIAL ESTATE, PATNA

Shri K.P. Jalan started his early career as an employee in a film distributing agency. He was not content with what he was doing as he was very enthusiastic and quite enterprising in nature. He wished to be a manufacturer of some industrial products from which he could derive his job satisfaction.

Shri Jalan approached Patna and Bombay Small Industries Service Institutes for getting first hand knowledge about industries. A scheme on industrial fasteners attracted his attention. At a suitable opportunity, he purchased one small industry which was offered for sale engaged in the same line of manufacture. This was in 1963. This unit since then was keeping constant touch with Small Industries Service Institute, Patna and got help in marketing through DGS&D, Government Stores Purchase Programme, technical know-how, managerial advice, etc. An inplant study was also conducted in their unit and the recommendations made therein were implemented with much success.

During the course of discussion with SISI Officers from time to time, the unit got impetus in exporting their products abroad. As a result, they could export their galvanised steel rivets 3/16″×1/4″ to Sudan to the value of Rs. 1,160 on a trial basis.

The unit is quite successful in capturing internal market and has become the sole supplier to some big industries in India.

The product C.V. 751.78 screws made by the unit could substitute foreign import to a considerable extent. The unit is maintaining a steady growth. SISI Patna is extending cooperation to them at every stage.

### M/s. ALLEN AND ALVAN (P) LTD., ALIGARH

This is one of the progressive and well managed units in Aligarh engaged in the manufacture of locks and non-ferrous fittings. Besides technical assistance, the SISI Kanpur provided training in Export Marketing to the Managing Director of the unit, Shri Devindra Vadia, which helped him very much in export business.

The unit has been supplied with vital export intelligence including the list of foreign buyers. It has shown the way as to how a small unit with continued efforts can break new ground in highly competitive market like USA.

During the last three years the unit has exported locks and fittings valued over 0.9 million of rupees to USA, Afghanistan and to Commonwealth countries.

### SHRI ABDUL MAJID ABDULLA KAJI, BOMBAY

Shri Abdul Majid Abdulla Kaji could not visualise twenty years ago that his small cosmetic unit would become a successful exporting enterprise one day. The cosmetic factory of Shri Abdul Majid was started on a modest scale in a small room of 10′×10′ with an investment of Rs. 2,000 only. His first attempt to enter export market met with suitable success when 250 dozen of hair oil bottles were shipped to Bahrein in 1948.

Progressively Shri Abdul Majid made a dent in other Middle-East countries such as Dubai, Saudi Arabia, Mascat, Aden, etc. and consequently, the total exports reached a figure of Rs. 15,000 in 1954 as compared to Rs. 10,000 in 1951. Today, the entire production, estimated to be of the order of Rs. 125,000 annually, is finding its outlet in foreign markets. This is no mean achievement.

### M/s. HORIZON INDUSTRIAL PRODUCTS (P) LIMITED, NEW DELHI-15.

The unit is employing about 13 persons on regular and 35 on contract basis and is engaged in the manufacture of motor controlling equipment. With the assistance of Small Industries Service Institute, New Delhi, they took up the export of "Blue Peter" Electrical Motor Starter and their efforts succeeded in procuring orders from United Arab Republic. Since December, 1968 they have already exported "starters" worth above Rs. 25,000 and further orders are expected. Initially, the unit faced difficulties in procuring deep drawing quality of PCRC sheets but since the policy of liberalisation of raw-materials has been adopted the unit expects to cater to wider market in the Middle East countries.

## M/s. KAY IRON WORKS PRIVATE LIMITED, JAGADHRI ROAD, YAMUNA NAGAR

This is one of the labour intensive units employing about 235 persons and manufacturing sugar, paper, cement and chemical machinery parts and components. In the face of severe competition from Holland and China, the unit has been able to secure export orders from countries like Burma, Kenya and Ceylon. Their export of sugar-machinery parts like brass liners, M.S. Pipes and fittings and chains, etc. since 1962, have earned foreign exchange to the tune of Rs. 378,000 to the country.

Situated far off from the ports, the unit had to face considerable difficulties in transportation of goods. In case of sugar mill rollers, which are very heavy, many difficulties were encountered at Calcutta Port in loading. The unit claims that they are the only exporters of sugar mill rollers both in the large and small scale sectors of the industry. Their contribution to export of sugar mill machinery was 11·61 per cent for the year 1963-64. In the year 1964-65, this figure rose to 12.79 and to 20.25 during 1965-66 as against the total export of these items by the country.

Shri S. Chandra, their dynamic Sales Manager, expects to secure many orders from abroad if intensive efforts are made in the field of export promotion.

## M/s. KAYCEE PLANTATION AND CANNINGS, TRICHUR

Shri K.C. Maney, Managing Partner of M/S. Kaycee Plantation and Cannings, Trichur, started a small fruit processing unit in 1956. His aim was to utilize the pineapples grown in the area as well as those from his own estate. Shri Maney is an astute industrialist who continuously avails of the assistance available from the Small Industries Service Institute, National Small Industries Corporation, State Trading Corporation and State Departments. With the facilities available from various organisations and also due to his own initiative and enterprise, this firm now employs over 200 persons in season and has grown to be a major fruit processing unit, with an annual production of Rs. 2 million of pineapple, mango and orange juice, slices, jams, and jellies which find a ready market. From 1961 onwards, Shri Maney started exporting to the Middle East. At present he exports pineapple juice and slices to East European countries and USSR to the value of Rs. 0.5 million per year. He hopes to increase his exports in a year or two to 50 per cent of his annual production.

## M/s. NARAIN ENGINEERING WORKS, RAJA DARWAZA, VARANASI

This firm is mainly engaged in the manufacture of agricultural implements. On the advice of the Small Industries Service Institute, Kanpur, they took up the manufacture of drilling machines. The SISI gave all technical assistance to improve the quality of their machines. Having satisfied with the improved quality, the proprietors of the unit were encouraged to send these machines to various international exhibitions in foreign countries. They have displayed their drilling machines in more than 20 fairs held abroad.

One of the senior partners of the firm attended a training course on Export Marketing at Varanasi and the unit was further assisted in preparation of shipping and other documents connected with export. Besides, the unit was also provided with other necessary information regarding the prospects for export of their products through the Export News Bulletin published by SISI Kanpur.

It is a matter of legitimate pride for a small unit, more so for Shri Govind Das, to enter highly sophisticated and competitive markets like USA and West Germany which are renowned machine tool manufacturers in the World. They have now been in a position to export their drilling machines to a place like Detroit in USA, which is an important centre for automobile industry of international repute. Though their exports during the year 1967-68 were valued at Rs. 14,000 only, there are bright prospects for further expansion. Already they have secured orders from advanced countries like West Germany and Australia.

The unit is extremely grateful to the Small Industries Service Institute for technical expertise and other kinds of timely assistance.

## M/s. PUROHIT RUBBER WORKS, BOMBAY

Shri R.C. Purohit, who started his career as a school teacher in 1938, little imagined that he would be the proprietor of a well organised, full-fledged rubber factory in Bombay. He preferred a clerical post in a rubber factory in Bombay to a school teacher's post. While working in the rubber factory, Shri Purohit felt confident about his ability and capacity to start an independent unit. Consequently, he resigned his job in 1948 and started a small unit with a modest capital investment of only Rs. 500 manufacturing rubber bonded goods in the heart of Bombay City.

Within a span of 6 years, the investment of the concern rose to about Rs. 100,000 with 30 workers on the roll. This helped Shri Purohit to diversify production activities and acquire a sufficient amount of built-in potential for the manufacture of various rubber parts required for automobiles such as engine mountings, rubber bushings, oil seals, rubber channels, etc.

The accommodation at Ghatkopar fell short of the growing domestic demand for the products of the concern. In 1961, the Factory was moved to Kurla Industrial Estate. Their total production of about Rs. 300,000 in 1957, reached as high a figure as Rs. 2.5 million in 1967-68. In other words, the increase has been eight-fold during the course of ten years.

With a view to exploiting potentialities of export markets, Shri Purohit started looking for overseas openings in August 1966. Within about 6 months he exported rubber products worth Rs. 14,136. The experience gained encouraged him to step up his exports and it is gratifying to note that in 1967-68 his exports were of an order of Rs. 110,000 to East African, South East Asian and Middle East countries.

### M/s. SHARDA ENGINEERING WORKS, HYDERABAD

This is a partnership concern set up in 1964 to manufacture diesel engines. The unit did not come up to the expectations for two years although demand for their products was good in the domestic market. The Management approached the Small Industries Service Institute for conducting an Inplant Study to suggest various measures for development. Recommendations were made for introduction of improved management techniques, marketing and production planning and control. With the implementation of various recommendations, the unit was able to enhance output from 40 engines to 96 engines per month in 1967.

Further assistance was rendered in getting the unit registered with the State Trading Corporation. The unit has exported diesel engines to USA valued over Rs. 25,000 during 1966-68. It is expected that M/s. Sharda Engineering Works would soon find itself as an established exporter from Andhra Pradesh, due to the sustained efforts of its Managing Partner Shri P. Ramchandra Rao.

### M/s. SPARK BATTERY MANUFACTURING WORKS LTD., CUTTACK (ORISSA)

Shri N.C. Pradhan, Managing Director of the unit, after graduation started his career as a journalist which, however, did not suit his ambition. After coming in contact with the Small Industries Service Institute, Cuttack, he decided to start an industry in 1957 for the manufacture of storage batteries which had a bright future in view of the fact that there was no such industry in the entire Eastern Region of the country excepting Calcutta.

At this stage, the idea of setting up small scale industries through Pilot Projects cropped up at Government level. Accordingly, a scheme for the manufacture of storage batteries submitted by Shri Pradhan was sanctioned by the Government of Orissa on 21-1-1958 under a Pilot Project Scheme.

The unit was originally located in an 'A' type factory building at Industrial Estate, Cuttack. They progressively took up the manufacture of lead-acid storage batteries suitable for cars, buses, cranes, tractors, wireless, marine engines, trucks, loco engines, motor cycles strictly according to the ISI specifications. Their technical and managerial problems were readily solved through the assistance and guidance of the officers of Small Industries Service Institute, Cuttack. The Institute also assisted the unit in setting up its testing laboratory, in selecting substitute materials as well as in its marketing efforts.

Careful planning, good management and progressive policies pursued by the entrepreneurs have played a very vital role in improving the business from year to year. The capital structure of the company has now raised to Rs. 300,000 from Rs. 80,000. The production which started hardly at 1,000 batteries per year increased in the last year to 3,000 batteries per month. The unit employs at present about 50 workers—both skilled and semi-skilled.

Through the assistance of this Institute, the unit was enlisted with the State Trading Corporation of India Ltd. under their Export Aid to Small Industries Scheme. Shri Pradhan succeeded to secure an export order valued at Rs. 567,000 in the year 1967 for supply of batteries of 12 volts and 7 plates type for tractors to Czechoslovakia. The export business has not only helped the unit in earning foreign exchange for the country but also assisted them in establishing a direct contact with the foreign buyer and to obtain a higher turnover.

# SMALL INDUSTRY FEATURES

# THE WIDENING HORIZON OF THE CERAMIC INDUSTRY

STRANGE as it may seem, the ceramic industry in the country has hardly kept pace with any new developments such as we see in the engineering and chemical industries. Both in large scale sector and small scale sector, the ceramic industry continues to manufacture traditional items without any appreciable change in the products as well as production techniques. The industry continues to manufacture common crockery and a small quantity of artwares as a major line of production in the whiteware industry. Also to a certain extent, the manufacture of sanitary wares and glazed wall tiles is being carried on in the country. The refractory industry has bulk of its production in various shapes of common fire clay bricks, whereas the structural clay products and stoneware industries manufacture bricks and roofing tiles as well as salt-glazed pipes in the same traditional manner. Over the last two decades there has been no change in the pattern of production. A stage has now come when diversification in manufacture of ceramic products is necessary and our country can be one with the other advanced countries which are far ahead technologically as far as the ceramic industry is concerned.

As the technology in the field of metallurgy, chemistry, electronics and engineering advances, there will be greater demand for newer ceramic products with exacting requirements of physical and thermal properties. The processes of melting and smelting of ferrous and non-ferrous materials are continuously changing and have posed a problem to the ceramic industry to supply them suitable ceramic materials needed under the conditions of new processes. The electronic industry has advanced to such an extent that there is a steadily increasing demand for dielectric ceramic materials. But for the discovery of such new ceramic materials, the advance of electronic industry, as is known today, may not have been found feasible. The development of jet engines and space rockets has created a demand for specific type of refractory materials. In the field of nuclear engineering, the ceramic materials with newer properties are required for the fabrication of fuel moderators, etc. In the traditional field there is a constant change in structural materials such as, roofing tiles, wall tiles, floor tiles, bricks, etc. For example the use of hollow bricks has come into vogue and similarly there is always a search for lighter but tough roofing materials for reducing the cost of construction of a building. New patterns and new designs of wall tiles are being evolved keeping in view the utility and artistic value. In the field of engineering, there is a constant search for greater and efficient grinding and cutting media. This has resulted in the development of superior abrasive materials and newer types of cutting tools. Hence there is tremendous scope for existing units in the ceramic industry and for the new entrepreneurs to set up enterprises for the manufacture of newer type of ceramics. Let us now consider some of the newer ceramics.

The newer ceramics are commonly known as technical ceramics or industrial ceramics. In the electrical items, the manufacture of spark plug insulators is attracting the attention of new investors. Presently, in the country, there is only one unit that manufactures spark plugs especially for the automobile and scooter industries. The demand for spark plugs far exceeds the installed capacity and therefore there is scope for a few more units to come up in the country for manufacture of spark plugs. This is not only to meet the country's demand for spark plugs but also to exploit the export markets of the countries in the Far East and Middle East.

Steatite bodies are extensively used for insulation for high frequency application because of its very good mechanical and dielectric properties and relatively low power losses at high frequency. Forsterite bodies are used principally where low loss is required. Because of its high expansion it finds some use for ceramic to metal seals. Cordierite bodies are of interest due to their low coefficient of thermal expansion and good heat-shock resistance.

Ceramics for the electronic industry offers very good scope for the development of new enterprises. The ferrites or ferro-magnetic bodies are the newer developments in ceramics which are extensively used by the electronic industry especially in manufacture of portable radio receivers, transistor sets, tape recorders, television sets, remote control tuning devices, recording equipment, telephone carrier filter coil, etc. Also dielectric materials, such as barium titanates, magnesium titanates, zirconates, etc. are used in the electronic industry. Using such titanates, dielectric constants upto 20,000 at radio frequency have been obtained. Ceramic materials closely related to ferrites are extensively used in manufacture of hard or permanent magnets also.

In the field of chemical industries, chemically resistant materials, especially chemical stonewares are much in use. The chemical stonewares have all the advantages of resistance to acids and alkali and do not set up undesired crystallisation centres. Items that are made under the chemical stonewares are raschig rings, berl saddles, stoneware jars for storage of acids, cooling coil and as lining materials for chemical pumps and pipes for flow of highly reactive acids and gases. There is also scope for the manufacture of acid proof materials such as acid resisting bricks and tiles. Though chemical porcelain is being manufactured to a certain extent, there is still scope for new units to come up in view of the expanding laboratory facilities provided in science colleges and other research institutions in the country. The manufacture of filters, especially used in filteration of acid and other chemical solutions, also provides a good line of diversification. Starting with simple filters used in chemical laboratories the large size circular filter plates and candles which are extensively used for the purpose of pharmaceutical and bacteriological work can be manufactured.

In the field of refractory, gas turbine and jet propulsion engines call for special type of refractory materials. Requirements of refractories are for combustion chambers, nozzles, turbine buckets, turbine nozzle blades, turbine rotors and for the insulation. Such requirements call for the use of refractory materials such as graphite, silicon carbide, alumina and other metallic carbides and nitrides. The nuclear engineering industry refractories especially for the reactor and in the four major components of the pile—(a) Fuel (b) Control Rods (c) Reflector and (d) Moderator. Urania is used as a fuel element along with other refractory additives. The ceramic fuel elements are made from a moulded uranium and thorium oxide. The control rods are very important in their function of absorbing excess neutron in the chain reaction. For control rod fabrication, the compounds of elements having high absorption cross sections are used. Some of the materials that could be used to meet these requirements are boron carbide, boron nitride, tantalum oxide, tantalum carbide, hafnium oxide, hafnium carbide and hafnium nitride.

The reflector in a reactor is for preventing escape of neutrons. Here also material of large catering cross section and its high melting compounds can be used. Oxides of beryllium, zirconium, columbium, etc. have been used in the material for such purpose. High density graphite is used most often for reflectors as well as for moderators. But more and more beryllium is being used. The fabrication of such rods and other shapes of the above stated oxides, carbides, borides, nitrides for nuclear reactor, constitutes a newer field of development in ceramic technology.

Electro-cast refractories are still imported. Such refractories being of high density and high chemical resistance at higher temperatures, are extensively used in lining of glass melting furnaces. The refractory blocks used in glass tank furnace, made with normal casting process can be manufactured by existing manufacturers of refractories.

Special type of refractories such as furnace furniture has not been extensively manufactured in this country as yet. Newer and better types of furnaces are being designed and refractories to suit various thermal conditions would be needed. Here also manufacture of insulating fire bricks will have scope. Hence new entrepreneurs may consider taking up the manufacture of such special refractories that are required in construction of furnaces and kiln furniture.

The use of saggers in firing of ceramic bodies is inevitable. All the ceramic industries use saggers not only as a container but also for providing a protective wall for the ceramic items during the process of firing. The general practice in the industry is to manufacture saggers to suit one's own requirements. However, if manufacture of saggers is taken up as an ancillary activity, quite a number of small units making only various types of saggers can come up. These units can specialise in the manufacture of saggers of different shapes and sizes and of different composition to meet the specific needs of various types of ceramic and other industries where firing is part of the manufacturing process.

In the field of engineering, better abrasive materials are always sought for. Silicon carbide and aluminium oxide are used in the fabrication of grinding wheels, grinding stones and other abrasive materials. The newer abrasive materials now-a-days in use are made of carbides, nitrides and borides of metallic elements. The development of ceramic cutting tools is of recent origin. These are made of sintered alumina which imparts maximum hardness to the abrasive grains which retain their sharp edges and toughesss even at high temperatures. As such sintered alumina is extensively used in the manufacture of ceramic cutting tools. The manufacture of cutting tools from high alumina is another prospective line of production for entrepreneurs.

Cermets are common to ceramic as well as metallurgical industries. Cermets are the composition of ceramic material and metal in which the bonding is effected by chemical union or solid solution or by both. As the name suggests, the cermets consist of both the ceramic phase as well as the metallic phase. The ceramic phases which receive most attention include refractory oxides, aluminides, borides, carbides, nitrides, and silicids. The refractory oxide-based cermets are of current commercial interest and mostly they are chromium, bonded with alumina base material. The commercial carbide-based cermets are titanium carbides bonded with metals such as nickel, cobalt, chromium and molybdenum; tungsten carbides bonded with cobalt and chromium, and carbides bonded with nickel and copper. The cermets of molybdenum bonded with aluminides and titanium nitrides bonded with nickel appear to be provisional cermets. These cermets are normally used where high temperature friction material becomes necessary, especially at a higher temperature and high speed. Cermets have been used as non-lubricating bearing in the temperature range from 700° to 1500°F. The most effective use of cermets has been in the manufacture of jet engine components such as rotor blades.

Having discussed some of the newer types of ceramic items that have come into use in different fields of industry, we may also consider here some of the new fabricating techniques that have been developed and that would subsequently replace the older methods of production. The idea of using pre-reacted bodies is gaining momentum and with such development, it has been found possible to manufacture items which were not normally considered feasible. In this method a part of all constituents of the batch compositions pre-reacted at or near the vitrification temperature and then sized into particle size distribution for the specific operation. These procedures give a greater density as well as a sufficiently wide firing range. Since the materials in pre-reacted bodies are already processed and fired and since all the reactions are completed in advance, it is only necessary to sinter the formed shapes. These fired bodies with the use of fired reacted materials give 99% of the true density. The body prepared with conventional methods would not have given true density more than 85%. The bonding techniques are also changing gradually. The pressing operations are now preferred to be made at higher temperatures and pressures. The high temperature extrusion, wherever possible, is always considered as an aid in forming process. The coating methods, that is, spraying of ceramic materials and refractories, etc. are relatively new techniques. The use of devitrified materials has been noticed in low dielectric loss ceramics. In the case of devitrified body, the entire batch composition is melted and its composition is then allowed to devitrify rapidly which would then be used as component of dielectric bodies. Some of the new poly-crystalline ceramics can be tempered or thermally conditioned such as being done in the process of heat treatment of metals. This was not possible in the case of the old ceramic materials due to silica content in the bodies. However, with the use of alumina in composition, it has been found possible to give thermal conditioning to the body. These bodies can be cooled or heated to provide favourable and desired stress and strain conditions.

Manufacture of dental porcelain though a traditional ceramic item has not attracted the attention of the new entrepreneurs. The dental materials such as cementing materials and materials for fabricating artificial teeth are ceramic materials. In all replacement of teeth and fabricating denture, use of porcelain teeth has always been preferred to acrylic plastic teeth in view of its inherent properties of hardness, whiteness and non-reaction to the fermented foods. Hence one may take up manufacture of dental porcelain as a diversified line of production in the field of ceramic industry.

The brief review of many of the topics narrated above will evidently reveal that though the ceramic industry still manufactures bulk of the traditional items, the industry has immense potential for expansion. With the use of purer oxides in the formulation of ceramic bodies, new types of ceramic compositions have been fabricated which find use in various fields of developing technology. Though we may not find it feasible to exploit all the lines of production in the small scale sector of industry presently, manufacture of vitrified mosaic unglazed wall and floor tiles, high alumina bodies, cutting tools, chemically resistant ceramics, hard and soft ferrites, dielectric materials such as titanates, zirconates and high temperature oxide refractories are those in which small enterprises in the country can progress extensively since the demand for these would increase considerably in the near future. It would, therefore, be advisable for the existing industries as well as new entrepreneurs, to switch over to the production of these new types of ceramic items.

The Small Scale Industries Development Organisation would welcome entrepreneurs and would provide them with appropriate technical information on many of the processes for the manufacture of new ceramic items which have good commercial prospects.

# FOOD PROCESSING & ALLIED INDUSTRIES

## Introduction

FREEZING, Canning, Drying, Roasting and other methods of preserving food is an important factor in household management and of even greater importance in national economy. The conservation of foodstuffs, from the time of production to the time of actual consumption later, makes for a more varied and wholesome diet. Practical success in canning, drying, salting, etc. turns upon the proper application of the principles of the science of preservation. Scrupulous care in every step of the process is imperative. A worker who follows scientific principles of preservation and is careful in maintaining hygienic conditions will have processed food products, that are uniform in quality and satisfying to the taste.

Dietary habits in India, in general, are such that a large number of people subsist on diets which are predominant in cereals and lacking in other essential items. An improvement in the diet can be brought about by diversification, in a manner that the consumption of cereals, wherever high, is reduced and that of other items of food, which provide the needed proteins, vitamins and minerals, is increased. The food preservation industry does more than merely save wastage of surplus products available in the peak seasons of production. The food preservation industry makes wholesome foodstuffs available throughout the year irrespective of seasons and distances. Further, it offers to the grower and the processor alike that incentive which he needs to grow more and to process more. It thus contributes effectively to augment the supplies of wholesome foodstuffs.

Therefore, it is needless to point out that the food processing and preservation industry is essential and is of strategic importance to the economy of the country. Essential, because it is through this industry that our efforts to increase the supplies of wholesome foods would be successful. Strategic, because of two reasons (1) our defence forces depend on canned and other preserved foods in times of war and peace and (2) many of the processed and preserved foods have promising export markets.

The demand for various types of processed and preserved foods during and after the II World War gave an impetus to the development of the food processing industry in India. The growth of this industry since then has been phenomenal as may be evident from the progress registered with reference to the number of units as well as volume of production and exports. India as a whole and particularly Kerala State account for a very large share of the supplies of processed foods namely processed cashew kernels, sea foods, spices and condiments as well as fruits and vegetables. The growth in the number of factories, production levels and exports are indicated in Table I below.

TABLE I

**Growth of the Fruit and Vegetable Products Industry**

| Year | No. of units | Production | |
|---|---|---|---|
| | | Quantity in Tonnes | Value (Rs. million) |
| 1952 | 572 | 11,929 | 17.11 |
| 1956 | 750 | 23,517 | 25.63 |
| 1960 | 901 | 47,762 | 65.60 |
| 1964 | 909 | 72,536 | 111.78 |
| 1969 | 1,100 | 144,000 | 220.00 |

The number of units increased from 572 to 901 between 1952 to 1960. Thereafter some of the units were weeded out as they did not fulfil the minimum standards of hygienic production and sanitary conditions stipulated by the Fruit Products Order and thus the total number of working units were only 909 in 1964. By 1969 a growth of 21 per cent has been recorded, of these 2.4 per cent are understood to be in the co-operative sector, 3.6 per cent in public sector and 94 per cent in the private sector.

### Exports

*Processed Fruits & Vegetables:* The export of processed fruit and vegetable products amounted to Rs. 19.6 million in 1961-62, Rs. 24.1 million in 1964-65 and Rs. 33.5 million in 1965-66. According to the Indian Institute of Foreign Trade (IIFT), the total exports of processed Fruits and Vegetables during the year 1967-68 was 6,000 tonnes valued at Rs. 18 million. It has also estimated that the exports of these products would rise to 15,000 tonnes valued at Rs. 37.5 million by 1970-71 and by 1975-76 these exports would be of the order of 140,000 tonnes valued at Rs. 295 million. The break-up of exports of processed fruits and vegetables by 1975-76 is expected to be in the following order: Canned fruits 68,000 tonnes, juices and nectars 36,000 tonnes, pulps and concentrates 25,000 tonnes and canned vegetables about 11,000 tonnes.

Exports of fresh fruits and vegetables are also expected to increase to 145,000 tonnes valued at Rs. 72.5 million by 1970-71 as compared to 110,000 tonnes valued at Rs. 49.0 million in 1967-68. The IIFT has also estimated that the exports of fresh fruits and vegetables would be of the order of 310,000 tonnes valued at Rs. 205 million by 1975-76. Bananas and onions will be the major items of exports followed by potatoes and other fresh vegetables, mangoes and citrus fruits in that order.

*Marine Foods:* Considering the modest beginning in the 'fifties', the progress of marine food industry in the course of about a decade and a half has been phenomenal. The industry functions at present under unfavourable conditions and there are various impediments in the path of its progress.

The availability of abundant marine resources and most essential amenities such as plate freezers, deep sea trawlers, marine diesel engines, plentiful supply of potable water, uninterrupted supply of electricity, etc. coupled with the construction of fishing harbours at Vizhinjam and Mopla Bay and the master plan for developing a number of new centres for landing of fish and berthing of fishing vessels, are all favourable factors for the development and progress of this export-oriented industry particularly in Kerala State. The value of exports of marine foods during particular years between 1953 and 1969-70 is indicated in the following Table II.

TABLE II

**Export of Marine Foods**

| | Rs. million |
|---|---|
| 1953 | 0.06 |
| 1960 | 40.00 |
| 1965 | 69.00 |
| 1966 | 135.00 |
| 1967-68 | 199.00 |
| 1968-69 | 200.00 |
| 1969-70 | 334.60 |

The target for the exports of marine foods at the end of the IV Plan is Rs. 600 million.

*Cashewnuts:* The export of cashew kernels is the major item of exports of the Fruit and Food Processing Industry in India. The following Table III gives the quantity and value of exports of cashewnuts for the years 1959-60 to 1970.

TABLE III

**Export of Cashewnuts**

| Year | Quantity in Metric tonnes | Value in Rs. million |
|---|---|---|
| 1959-60 | 39,000 | 160.0 |
| 1961-62 | 41,800 | 181.7 |
| 1967-68 | 60,491 | 574.2 |
| 1968-69 | 61,150 | 582.3 |
| 1969-70—(upto August) | 40,900 | 418.6 |

The production of raw cashewnuts from 1960-61 to 1968-69 has increased from 69,500 tonnes to 131,000 tonnes. It is also understood that 207,200 hectares are to be brought under the cashew cultivation so as to increase the level of production of indigenous nuts to 236,000 tonnes by 1973-74 as a result of which the indigenous production of cashewnuts is expected to increase by about 48 per cent. At present the cashew industry in India depends on raw nuts imported from East Africa. Kerala State leads in Cashew Processing Industry with a share of about 68 per cent.

The spices and condiments of Indian origin have been popular in many parts of the world from time immemorial and are important commodities in the external trade of India. The trade in spices and condiments therefore plays an important role in India's economy.

India is a major producer of pepper, cardamom, chillies, ginger, turmeric, garlic and a number of minor spices like cummin seeds, fennel seeds, celery seeds, etc.

Indian spices and condiments are famous all over the world not only for enhancing the flavour of foods but also for other industrial purposes on account of their medicinal properties. The indigenous consumption of this commodity has also been increasing with the rising standards of living and with the increase in population. From the data given below, it would be very clear that India's foreign exchange earnings from spices and condiments during the last decade has been progressively on the increase. Of these, exports of pepper has the pride of place.

TABLE IV
**Exports of Spices from India**

| Year | Quantity in tonnes | Value in (Rs. million) |
|---|---|---|
| 1962-63 | 48,340 | 133.70 |
| 1963-64 | 51,179 | 152.79 |
| 1964-65 | 52,855 | 165.50 |
| 1965-66 | 62,463 | 230.50 |
| 1966-67 | 51,714 | 278.19 |
| 1967-68 | 52,195 | 271.17 |
| 1968-69 | 51,880 | 250.40 |
| 1969-70 | 43,694 | 343.00 |

Kerala is known to export 95 per cent of the country's pepper, 50 per cent of cardamom and 60 per cent of ginger.

**Food Based Industry in Kerala**

Kerala State is endowed with industrial raw materials of agricultural and marine origin which offer very great scope for the development and promotion of food processing factories. The climatic condition and rainfall are favourable for the cultivation of crops, plantations and orchards to provide sufficient agricultural resources to feed the processing industries. The State has also a coast line of 590 Km. with an annual marine fish landing of about 350,000 tonnes which could be considerably stepped up with further modernisation of deep sea fishing. Apart from processing of food of marine origin, it is statistically indicated that there is also further scope for the promotion of industries based on dairy and poultry farming, cocoanut, arecanut, utpioca, as well as bakery, confectionary, etc. The growth pattern of food-based industries in Kerala is given below :

TABLE V
**The Growth Pattern of Small Scale Units**

| Industry | Number of Small Scale Units | | | | |
|---|---|---|---|---|---|
| | 1960 | 1963 | 1965 | 1968 | 1970 |
| Fruit and Vegetable Products | 14 | 35 | 50 | 69 | 76 |
| Marine Foods | 15 | 30 | 42 | 60 | 67 |
| Bakery Products | 35 | 42 | 50 | 60 | 77 |
| Confectionery | 20 | 30 | 38 | 42 | 44 |
| Other products Co-coanut, Tapioca, Spices (excluding cashew) | 50 | 75 | 90 | 112 | 120 |

Kerala has registered a fairly steady progress in the number of factories set up during the past decade; this trend indicates the capability of the Industry to achieve target of production expected of it during the Fourth Plan period.

**Institutional Set Up**

At present the food-based industries in Kerala fall under the following categories of ownership:

| | |
|---|---|
| Proprietory | 85% |
| Partnership | 10% |
| Co-operative | 3% |
| Public Limited | 1.2% |
| Private Limited | 1.2% |

The pattern of which development has taken place reveals that this industry has scope in the small scale sector, owing to its amenability for wider dispersal in the areas where abundant resources of agricultural products are available.

There is also considerable scope for the development of the industry in the fold of Co-operative, Public and Private enterprises due to the fact that favourable managerial, technical and financial aspects facilitate the progress of any industry. Larger organisation in the form of co-operatives and public enterprises would be more suitable for marine and fruit processing units where the cost of plant and machinery for proper and adequate cold storage is beyond the limit of the individual entrepreneurs. The co-operative sector could well promote this industry in a bigger way by establishing "pool agency systems", for procurement and effective distribution of the raw materials to the larger processing units with high capital investment and know-how. This industry can also be promoted in the rural areas where with small capital the producers themselves can profitably set up production units either in the proprietory, partnership or co-operative sectors. The nationalised banks may also help such units by giving them credit facilities for working capital etc.

**Modernisation**

Since this industry caters to the needs of infants, invalids, defence personnel and others, it demands high hygienic standards in handling, processing and production techniques. The need for modernisation of plant, machinery and testing apparatus to international standards, needs no further emphasis. Though this industry is the most ancient in our country, the modernisation of the plant and machinery has been comparatively slow. As the demand for processed foods within and outside the country increased considerably during the last decade, the need for modernisation is all the greater for attaining higher standards both in production and packing techniques so as to be able to compete effectively in world markets.

The quality of indigenous plant and machinery for this industry such as automatic and semi-automatic roasting, filling, packing, sealing, labelling and other operations should be further improved for better processing and packaging.

Comprehensive programmes of development comprising of effective technical assistance in production and packaging techniques, training and demonstration for wider dissemination of essential process know-how, adequate grading/testing facilities and liberal incentives are all necessary to facilitate the development of the Processed and Preserved Foods Industry on sound lines.

# CHEMICAL & ALLIED INDUSTRIES

ORIGIN of chemistry goes back to the time when the element of oxygen was discovered. This event, which soon led to the first correct explanation of the common chemical change known as burning, perhaps marked the greatest breakthrough in the history of chemistry. The progress of the science of chemistry since then has been marked by significant discoveries leading to phenomenal achievements and contributing something valuable to every walk of our life, such as dye-stuff for colourful textiles, synthetic fibres and fabrics, fertilizers to maximise farm output, pesticides to avoid loss of food-grains, paints and varnishes to preserve wood and steel, a host of pharmaceutical products including life-saving drugs on the one hand and a wide range of cosmetics on the other, versatile plastics—from toys and household utility articles to face-masks for astronauts, etc.—from the treasure-trove of petro-chemicals to mention only a few familiar ones.

Overshadowing all other triumphs of chemistry is the development and control of atomic energy for industrial uses. Man now commands an unlimited and widespread reservoir of energy which can raise the living standard of hundreds of millions of people all over the globe.

The chemical industries came on the industrial scene of the world about 100 years ago. The growth of these industries has, however, been remarkable during the last 50 years and phenomenal during the last 20 years. One of the reasons for this spectacular growth is the discovery of synthetic materials to substitute natural ones in many fields and in some cases with better properties. Synthetic rubber, synthetic fibres like polyamides (nylon), polyesters (terylene), synthetic dye-stuffs, chemical fertilizers, synthetic essences and perfumer detergents, etc. are some familiar examples.

Although industrial development in India was very slow before the independence of the country, some of the early industrial enterprises to be started were chemical industries like soap, matches, sugar, paper, rubber products, sulphuric acid, etc.

After independence and with the dawn of era of planning, due attention was given to industrial development. During the last decade, however, chemical industries have made good progress. The setting up of petroleum refinery led to the development of petro-chemical complexes making available a large variety of industrial raw materials for a wide range of chemical industries.

Chemical industries may be broadly divided into 'basic' and 'processing' industries, the latter including such processes as sulphonation, nitration, chlorination, etc. In industrially advanced countries like USA, basic chemicals are produced on a very big scale while the processing, etc., is left to comparatively small units. Larger units do not find it worth their while to go into the processing operations. This is so because the end-products have to be marketed over vast areas and the transportation cost from a few large manufacturing units could be very high. It is, therefore, economical to produce these goods in a large number of small units spread all over. Besides, the end-products may be required in different sizes, colours, patterns, varieties, etc., and for each type the requirements of the market may not be very large to make its production viable on mass scale. In the case of industrial products, large scale units require them strictly according to their specifications. This type of production to meet specific needs, would again lend itself to small scale production with profit. Chemical-based industries in underdeveloped countries like India could also be organised in a similar way. This pattern has added importance in view of the need for greater dispersal of industries which is of great importance. Thus chemical processing, formulations, etc., are potential fields for the growth of small scale industries and are ideally suited for the qualified technologists who are seeking careers in industry.

In India, however, the large producers of basic materials want to utilise at least a part of the production of basic materials for processing as final products. This is due to the fact that the scale of production, although big from the Indian point of view, is not large enough to produce the basic materials only. Processing of the materials into final products offers promise of larger profit. Although on the face of it there can be no objection to this, in actual practice, it has been found that large producers of basic materials manipulate the prices of these materials and of the final products in such a way as to make the production of final products by small units uncompetitive. This must be guarded against.

The development of chemical and allied industries on small scale in India began only in the sixties. Before that the greater part of industrial development in this sector was in the field of metal-based mechanical engineering industries. But as time passed, the scope for further expansion was diminished considerably owing to competition as well as scarcity of raw materials. On the other hand chemical and allied industries offered greater scope for development and the raw materials were more easily available. Many entrepreneurs took advantage of the situation to set up new enterprises.

The main groups of chemical and allied industries in the small scale sector are dye-stuffs, pesticide formulations, paints, varnishes, resins, soap and detergents, organic chemicals, drugs and pharmaceuticals, plastic products, rubber products, paper products, matches, glass, ceramics, etc.

### Dye-stuffs

The manufacture of dye-stuffs in the small scale sector dates back to 1940. The large units came into the field later on in 1953. In the initial period only fast colour salts, stabilised azoics, solubilised vats, azo dyes and sulphur black were produced. But now practically the types of dye-stuffs, such as, azo dyes, napthols, bases, basic dyes, reactive dyes, chrome dyes, dispersed dyes, pigments, whitening agents, food and oil colours, etc., are being produced by the small scale units. Attempts are also being made to establish capacity for the manufacture of dyes for acrylic fibre in the small scale sector.

The quality of dye-stuffs manufactured in the small scale sector is quite comparable to the international standards. There are at present about 150 small units with an annual production of 3,500 tonnes of dye-stuffs. This production is against an approved capacity of 6,470 tonnes. The production of dye-stuffs by the small units constitutes about 35% of the total production of dye-stuffs in the country. The total investment in all the small scale dye-stuff units is estimated at Rs. 40 million whereas it may be higher only in one unit in the large scale sector.

Another important and notable point is that the small scale units have developed their own know-how using indigenous equipments and machinery whereas large units have collaborated with foreign manufacturers. Small units have been able to manufacture and sell the finished dye-stuffs at considerably reduced prices during the last 10 to 12 years. Some of the small units have also taken up the manufacture of dye-intermediates like pyrozolones, metanilic acid, 1:5 dibenzoyl naphthalene, benzoel-chloride, H acid, anthraquinone, etc.

### Organic Chemicals

Small chemical manufacturing units are playing a very significant role in organic chemical industries such as chlorination, sulphonation, nitration and refining. Small units are also successfully recovering valuable chemicals from the waste products of the large scale units.

### Drugs and Pharmaceuticals

A large number of small units are engaged in the formulation of medicines in the form of tablets, powders, liquids, syrups, injectibles, capsules, etc. It is estimated that the production of drugs by the small scale units during 1969 was of the order of Rs. 200 million. Besides formulations, some basic drugs are also being manufactured in the small scale sector.

### Pesticide Formulations

Development of this industry in the small scale sector was taken up in right earnest in 1962. There are, at present, nearly 200 small units spread all over the country producing a variety of these formulations which are so vital for the success of the agricultural development programmes. Besides formulations, which is the main activity, copper oxychloride of technical grade is also being produced in the small scale sector.

Since pesticides are hazardous materials, these have to be handled by qualified people. Most of the small units are under the charge of qualified technicians and are producing as per ISI standards.

### Paints and Varnishes

This is one of the important small scale chemical industries and the performance of small units in this field is commendable. Small units are producing annually about 25,000 tonnes of paints and varnishes as against their total installed capacity of about 50,000 tonnes. Certain items of paints and varnishes have been reserved for exclusive manufacture in the small scale sector. Besides, there are a number of small units producing synthetic resins of special types which constitute a major ingredient in several paint formulations.

**Matches**

Further expansion of capacity for the manufacture of safety matches is reserved for small scale sector. There are nearly 1,200 small scale units in the industry. The production of match boxes (50 splints per box) in the small scale sector at present is of the order of 4,650 million number which is equal to the production of matches in the large scale factories.

**Plastic Conversion**

Although no precise information on the number of units engaged in the processing of plastic materials is available, the industry is, nevertheless, one of the biggest in the group of chemical and allied industries on the basis of number of units and variety of products. The number of units in the country in various lines of plastic conversion can be placed at about 3,000. These units are producing a variety of plastic goods by familiar processes such as injection moulding, blow moulding, extrusion, vacuum forming, and also laminated and foamed products.

Special mention may be made of the development of PVC footwear, acrylic sheets, polyurethane foam, blow moulded containers and polythene/PVC sacks in the small scale sector. A part of the production of acrylic sheets of pearlised as well as non-pearlised varieties comes from small units. As a result of this, the import of acrylic sheets has been banned except for plastic buttons on a restricted basic. Efforts have been made to create adequate capacity for polyurethane foam and a number of new units whose proposals have been approved are expected to go into production before long. A number of small units are coming up for the production of polyurethane/PVC sacks and blow-moulded containers.

A number of plastic items have been exclusively reserved for production in the small scale sector and there is also vast scope for the dispersal of this industry since the items of manufacture are mostly consumer goods which are in demand everywhere in the country.

**Tyres and Tubes**

There are a number of small scale units producing cycle tyres and tubes. Further expansion of capacity for the manufacture of cycle tyres and tubes has been exclusively reserved for the small scale sector. Recently the production of scooter tyres and tubes has also been taken up by one small enterprise and some more are likely to come up.

**Soap**

Manufacture of laundry soap has been reserved for production in the small scale sector since 1966-67. There are nearly 3,000 small units engaged in the production of laundry soap. They produce about 450,000 tonnes of soap annually which is nearly double the production of laundry soap in the large scale sector. Some small scale units are also producing toilet soap.

**Glass and Ceramics**

One of the most important industries in this group is optical lense-grinding which is done by small scale units only. There are nearly 500 units in this industry.

A number of small enterprises are also engaged in the production of thermometers. This industry has received an impetus with the establishment of an Extension Centre at Solan for training candidates in the techniques of manufacturing thermometers of various types.

Another important line is graphite crucibles. Small units engaged in the production of crucibles are concentrated in the States of Andhra Pradesh and Tamil Nadu and they have acquired a high degree of skill.

**Paper Processing and Conversion**

A large number of small scale units are engaged in the production of a wide range of paper products. Special mention may be made of electro cardiogram paper, stencil paper, graph paper and photographic paper being made by small enterprises with indigenous know-how as against the foreign collaborations obtained by their counterparts in the large scale sector. This is a commendable achievement.

**Future Development**

If the present state of development of chemical and allied industry, which had a late start in the country, is any indication, it can be safely said that the prospects for future are quite bright. This is specially so because more and more qualified technicians are getting interested in these industries. But an important pre-requisite for the healthy development of these industries is the availability of adequate laboratory, testing and pilot plant facilities in the country. These are necessary because it is essential to test fully the process not only in a laboratory but also on a pilot scale before venturing on a project on a commercial scale. These facilities may be provided by the Government at centres having potential for the growth of these industries. Alternatively, associations of chemical-based industries may be encouraged to organize these facilities which would go a long way in accelerating the pace of development of these industries in the future.

# ELECTRONICS INDUSTRY

IN a vast country like India with abundant manpower resources, where unemployment among the educated as well as the uneducated poses a very serious problem, the development of small scale industries undoubtedly provides a solution. The Small Industry Programme fulfils two important objectives of economic development, besides their highly labour-intensive and capital saving aspects. Firstly, they help in reducing concentration of economic power and ensures dispersal of industries by encouraging prospective entrepreneurs from middle level of society to take up industrial ventures. Secondly, they facilitate transformation of traditional technology characterised by low skills, low productivity and low wages into modern technology characterised by improved skills, high productivity and rising wages.

During the last 15 years or so, the small scale industries registered phenomenal growth in this country. Today, a large number of consumer items are being produced to the desired quality and extent in the small scale sector successfully. It is widely known that in the early phase of development of the small scale sector in this country, along with the others, a remarkable growth took place, particularly in the bicycle industry. In fact, in those days a doubt was raised whether this industry could successfully come up in the small scale sector. This was accepted as a challenge and today the small scale entrepreneurs in this field have very successfully established their position in competition with their large scale counterparts. In fact, it was the small scale sector which had been primarily responsible for bringing down the price of the bicycle in the country in the recent past.

Small scale industries have grown not only in size but also in the degree of sophistication of their products due to the adoption of modern techniques and methods of production. Due to its wide and varied application in important fields like atomic energy, communications, defence, industrial process control etc., the need for developing electronics industry in our country had been rightly felt in the recent past. Although some phenomenal development has already taken place, it is still in the growing stage in comparison with other developed countries of the world. The Electronics Committee under the chairmanship of the late Dr. H.J. Bhabha had undertaken a study of this industry in 1965 and made an assessment of the existing condition and suggested schemes which should be adopted to meet the requirements for electronic equipment, components etc. by the end of 1975. According to this Committee's report, by the end of 1975, the country should be in a position to produce Rs. 3,000 million worth of electronic products as against the production of Rs. 260 million worth of goods only in the year 1965. On the basis of the Bhabha Committee's report, adequate steps were taken to create capacities for various items in the field of electronics industry during the last 3 to 4 years. Although there has been a progressive increase in the production of electronic items since 1964-65, the value of production has gone up to Rs. 850 million only during 1968-69. It is, therefore, evident that there is still a large gap to be bridged and as such this particular industry has a very high potential in the employment of skilled workers, engineers and scientists and will provide important avenues for the gainful employment of university graduates properly trained and qualified in the subject as also skilled technicians. The electronics industry covers a wide range of highly sophisticated items including computers, precision type of instruments, defence equipment etc. along with entertainment types of equipment. In the field of entertainment type of equipment, the small scale sector could definitely play a vital role in shaping the economy of the country. The items which could be most successfully produced in the small scale sector are radio receiver sets, tape recorders, amplifiers, ampligrams, microphones, television receivers, hearing aids, electronic components like resistors, capacitors, loudspeakers, volume control, band change switches etc. and a few simple types of instruments.

**Radio Industry**

Nearly two decades back a radio receiver set was being considered as a sort of pride possession and status symbol in the Indian society as it was more or less beyond the reach of common people in India. The bulk of the country's requirement for radio sets in those days had to be mainly met from imports and it was only in 1947 when two large scale units with a capacity of 8,000 sets per annum were established in the country. Today radio set in India is more or less considered a bare necessity even in the lower middle class family. This has obviously been possible due to the massive growth and development of radio industry which has taken place during the last 15 to 16 years both in the large and small scale sector in this country. The small scale sector it, may be pointed out, made a beginning in this particular field in the early fifties and started making rapid progress only after 1958 when it recorded a manifold increase in the number of units from 188 to 1,600 units. This is a clear evidence of the significant role and contribution which the small scale sector has made particularly in the field of radio industry. Prior to the year 1958, the country's bulk production of radio receiver sets was mainly confined to the large scale sector and in fact it was the small scale sector which has been substantially responsible to boost up production to an enormous proportion in the subsequent years.

Radio industry as it is widely known involves technology of simpler nature and because of its labour-intensive aspect as well as due to the fact that it needs less investment on machinery and equipment as compared to other industries is undoubtedly ideally suited for development in small scale sector. This aspect has been taken advantage of fully by the small scale entrepreneurs during the last decade and today the small scale sector's contribution is about 50% of the total production in the country. In fact a substantial spurt in the production in the small scale sector has taken place during the period 1964 to 1968 as would be evident from Table I.

Considering the fact that the small scale sector has started operating in the field as late as the latter part of fifties i.e. much later than the time when their large scale counterparts began operation, the growth and development in the sector has no doubt been a remarkable one. It is the small scale sector entrepreneurs who have been more or less pioneers in the field of production of low priced radio sets in the country. During the last 10 years nearly 85 to 90% of the capacity in the small scale sector has been utilized for the purpose of making these low priced sets. With the introduction of low priced radio sets in this country and use of transistors in the sets, it has been possible to bring down the price considerably to a level which is easily accessible to the common people. This obviously created favourable market conditions leading to a substantial increase in production as well as creation of new units in the past. It is only after the small scale sector flooded the market with the low priced sets that the large scale sector was allured to divert a substantial percentage of their capacities for the production of low priced sets in order to compete successfully with their counterparts. With the present trend of growth, it has been estimated that the annual production has to be 7 million numbers by 1973 to meet the country's demand. Out of this, 3.2 million numbers have been earmarked for creation in the small scale sector. This has been done keeping in view the growth pattern of small scale sector in this particular field in the past. It is expected that with the facilities provided by the Government to the small scale sector on various aspects, this radio industry will not only maintain its phase but also grow at a much more rapid rate than what has been in the past.

TABLE I

RADIO PRODUCTION

| | Licensed capacity (Million Nos.) | | | Production (Million Nos.) | | |
|---|---|---|---|---|---|---|
| Position as on | Organised sector | Small Scale Sector (estimated approved capacity) | Total capacity | Organised Sector | Small Scale Sector (Estimated). | Total |
| 31-3-65 | 0.400 | 0.35 | 0.750 | 0.460 | 0.310 | 0.770 |
| 31-3-66 | 0.580 | 0.420 | 1.000 | 0.560 | 0.390 | 0.950 |
| 31-3-67 | 0.700 | 0.600 | 1.300 | 0.710 | 0.450 | 1.160 |
| 31-3-68 | 1.750 | 0.850 | 2.600 | 0.850 | 0.750 | 1.160 |
| 31-3-69 | | | | 1.200* | 0.900* | 2.100* |

*Estimated production

**Tape Recorder**

Tape Recorders offer a wide field of application both for entertainment as well as in various professions. In view of the simplicity of the technology involved and also due to the fact that this is an assembly-based industry, this could no doubt be successfully manufactured in the small scale sector. In the production of Tape Recorder as it is known, the most difficult technology involved is in the tooling and manufacturing of the mechanical parts which have to be done either by the Tape Recorder manufacturing unit or by procuring the same from some other tool making unit within the country.

A few years back, Tape Recorder was more or less considered as a luxury item in this country and entrepreneurs were not permitted to go in for the manufacture of this item. This measure had to be taken in view of the stringent foreign exchange position in the country. It is needless to emphasise the utility of the Tape Recorders which no doubt serves as a sort of medium for education and mass communication. With the improvement in the foreign exchange position it was decided to develop capacity in this particular field. It may, however, be mentioned that even though the production of Tape Recorder was more or less fully banned in the large scale sector, in the past, a few units in the small scale sector had been allowed to undertake production on experimental basis. As a result, two to three units came up in this field and the total production has been of the order of 3,000 numbers during the last year. Recently, the anticipated requirements for Tape Recorders in the country has been examined by the Planning Commission in consultation with the Department of Electronics and other concerned Ministries and it was decided to create capacity to the extent of 150,000 numbers in the large scale sector. As against this, about 18 units were approved by the Government in the small scale sector for the manufacture of Tape Recorders with a total production capacity of 230,000 numbers per annum. Components and parts like magnetic heads, tapes, electric motor, microphone etc. @Rs. 30.00 per set are being allowed to be imported at present. It is however expected that in the near future, capacities for these components will be set up indigenously, thereby effecting almost a total elimination of imports. All these units are spread all over India and they are expected to go into production during this year. These units are more or less concentrated in States like Delhi, Maharashtra, Madras, U.P., Punjab, Andhra Pradesh and Gujarat. These units when they come up will definitely provide employment to a large number of technical personnel in the country.

**T.V. Sets**

The introduction of televison in India has until recently enjoyed only low priority. The reasons for this could largely be attributed to (1) inherently higher unit cost of T.V. receiver compared to a receiver for sound broadcasting; (2) absence of broad-band-telecommunication links throughout the country; and (3) the large dependence on import of equipments and components for broadcasting or reception of television programmes. Moreover, during the first phase of development in the post-independence period, more emphasis was laid on the growth of basic industries on which the development of other industries in various sectors largely depends. In the year 1959, however, a beginning of television in the country was made purely on an experimental basis and a telecasting station started operating in Delhi. This telecasting programme subsequently became quite popular in course of time and it was felt that in view of the vastness of the country which mostly comprises of rural population, introduction of T.V. could obviously play a very significant and dominant role in mass communication and could be very well used as a sort of medium of mass education along with entertainment. Chanda Committee, which studied the growth and future development of radio and television industry in the country, had stressed the need for the early introduction of television in their report because of the role it could play in social and economic development. A few years back, the Department of Atomic Energy organised a study of the cost and significance of synchronous satellite to link together isolated rural communities and distant centres of population in India through a powerful national system of mass-communication using television. This study revealed that a hybrid system involving direct broadcast to some areas and rebroadcasting stations to the densely populated regions could easily be used for the purpose of mass-communication to the villages through community receiver sets at a minimum cost.

On the basis of studies and reports on the subject, it was decided by the Government of India to set up television stations at principal cities like Bombay, Calcutta, Madras, Kanpur and Srinagar to start with. It was also decided that the T.V. centre at Delhi which is catering to the services of an area within a radius of 40 KM only should be extended to 60 KM radius. The Bombay station which is expected to come up within a year or so will have relay facilities to cover the city of Poona and surrounding industrial and agricultural areas.

In view of this, the demand for T.V. sets even for barely catering to the needs of the areas where the telecasting stations are proposed to be established is likely to be quite sizable in the next few years. Accordingly, it was decided in the early part of 1967 that capacity should be allowed to be created in the private sector and 4 units—two in the large scale with a capacity of 10,000 numbers each and two in the small scale sector with a capacity of 5,000 numbers each had been approved by the Government for production. All these four units have already gone into production on the basis of design and technical know-how supplied by the Central Electronic Engineering Research Institute, Pilani.

In view of the fact that a synchronised satellite is likely to come up in the near future in collaboration with NASA which also envisages establishment of 2,000 T.V. receiving centres for community viewing, it is expected that the demand for T.V. sets will increase considerably during the next few years. In a country like India where the purchasing power of the people is limited, the provision of television through community sets is likely to play a much more important part than the privately owned sets. Keeping these aspects in view, Government of India is seriously considering the question of further creation of capacities in the case of T.V. both in the large and small scale sector. It may be mentioned that at present T.V. sets of 19" and 23" screen are being produced in the country and the import content is of the order of about Rs. 260. The major element of the import content is the picture-tube which is now produced by the Bharath Electronics, Bangalore and it is expected that with the increase in the production of picture-tubes indigenously, the import content will be gradually eliminated. Smaller T.V. sets would no doubt be more suitable for Indian homes, which now have comparatively smaller living rooms. Smaller 12"×16" screen television sets of the transistorised type are now being manufactured in most countries outside India and the moment the integrated circuits become indigenously available in large numbers in this country at low prices, the transistorised version would be modified to work on integrated circuits. Manufacture of smaller television sets using transistors now and integrated circuit later will definitely enable to bring down the prices of the T.V. sets considerably.

**Electronic Components**

It is needless to mention that electronic component industry plays a very significant role in the matter of production of electronic equipments, instruments etc. and contribute substantially to the growth and development of other electronics industries. For a number of years in the post independence period, electronic components which go even into the manufacture of simplest entertainment type of equipments like radio receiver sets were mostly imported from outside. The necessity for the growth of electronic component industry was, however, realised in the early part of 'sixties' and a few units in the large scale sector had been set up to manufacture certain electronic components and instruments which go into the manufacture of radio receiver sets. In the small scale sector also entrepreneurs embarked upon production of simplest type of components like telescopic aerials and I.F.Ts oscillator coils etc. With the advancement in their knowledge of technology, units in the small scale sector gradually undertook manufacture of other electronic components like band change switches, loud speakers, paper cones, volume control, capacitors, resistors etc. which find wide and extensive use in a very large number of electronic equipment. Even a few years back, radio manufacturers were importing simplest entertainment components Rs. 40.00 per set. There has, however, been a progressive elimination of this import due to indigenous growth of component industry and today import is only for the miniaturised type and to the extent of Rs. 1.00 per set.

In the field of electrolytic and paper capacitors, there are 4 units and 2 units respectively in the small scale sector and their production has been of the order of Rs. 1.02 million and Rs. 1.12 million worth of goods respectively. Raw materials used for the manufacture of electrolytic condensers include high purity aluminium foils, special variety of tissue paper and chemicals of electrolytic type. Etched aluminium foils were previously imported from outside and capacities are now being set up in the country to produce this material to cater to the needs of this industry. Potentio-meters which are used in controlling volume of sound are now being produced in large quantities both in small and large scale sectors. These components, it may be mentioned, were earlier being imported and in view of the increase in the level of indigenous production, import only on restricted basis is allowed now.

Similarly, the miniaturised band change switches, trimmers etc. are also allowed on restricted basis. In the small scale sector there are 15 units operating for the manufacture of these components and their production has been of the order of Rs. 1.9 million worth of goods. Likewise a number of units have come up in the small scale sector during the last decade for the production of plastic film capacitors, gang condensers, loud speakers etc.

According to the Bhabha Committee's report, the demand for these products, by the end of 1973, has been estimated to be of the order of Rs. 840 million per annum as against the present production of Rs. 210 million for electronic components. In view of this tremendous anticipated growth of demand in the next few years, a number of units have now been approved for manufacture of various types of electronic components both in large and small scale sectors. Electronic components, as it is known, comprise of two distinct types namely entertainment and professional grades and it is in the field of entertainment type of components where there is not so much of rigidity in respect of the order of accuracy and the small sector would undoubtedly play a vital role. Keeping this aspect in view about 87 fresh units have been approved as shown in Table II below for the manufacture of various types of electronic components.

TABLE II

CAPACITY APPROVED FOR ELECTRONIC COMPONENTS

| Item | Number of units approved | Total capacity sanctioned (Million numbers) |
|---|---|---|
| 1. Gang condensers | 16 | 5.0 |
| 2. Volume control | 12 | 6.5 |
| 3. Resistors | 11 | 25.0 |
| 4. Loudspeakers | 14 | 3.0 |
| 5. Electrolytic capacitors | 13 | 24.0 |
| 6. Band switches | 11 | 2.4 |
| 7. Ceramic capacitors | 4 | 23.0 |
| 8. Plastic film capacitors | 6 | 14.0 |

It is worthwhile to mention that in the field of telescopic aerial, small scale sector has played a significant role in the past and this item has been kept exclusively reserved for development in small scale sector. In fact, today it is catering to almost the entire requirements of the country and there has been a sizable export of this item during the past few years.

Hearing aids, it may be mentioned, are now being exclusively manufactured in the small scale sector. There are about 12 units spread all over the country and their production has been of the order of 12,000 numbers as against the production capacity of 40,000 numbers per annum. One of the units in the small scale sector located at Bombay is exporting its products successfully to the East European countries regularly.

Some of the electronic instruments, particularly those which do not involve much intricacies in their production, have successfully been undertaken by the small scale entrepreneurs. There are at present 40 units manufacturing various types of electronic instruments such as oscilloscope, multimeter, V.T.V.M., Signal generator, transistor, tester etc. in the small scale sector. These types of electronic instruments are bound to find wide and extensive use in the field of engineering industries, communication, defence, atomic energy, etc. due to the modernisation and adoption of new technology and automatic process control. The small scale sector will no doubt absorb a good number of technical personnel in the course of the development and growth of the instrument industry.

### Assistance by SSIDO

The small scale sector encounters a number of limitations like weak financial position and the absence of perfect technical know-how in making its products comparable to those of the large scale sector in precision and sophistication. These difficulties are no doubt being overcome by joint efforts of small entrepreneurs and their associations on one side and the SSIDO and national laboratories on the other. So far as the electronic industry is concerned, the Central Electronics Engineering Research Institute at Pilani and National Physical Laboratory are directly engaged in the development of prototypes and advance technology in the field. The small scale entrepreneurs, if they so desire, could take advantage of these institutes and laboratories in respect of any new design, technology and know-how. Government permits foreign collaboration on reasonable terms in respect of the products for which technical know-how is not available in the country.

The SSIDO which is mainly associated with the growth and development of small scale industries in the country has been making significant contributions in various forms according to the requirements of the electronic industries from time to time. The activities of this organisation are multifarious. It has technical officers in the SISIs spread all over the country for rendering necessary advice and guidance to the small scale units, in the adoption of new technology, production of quality goods and modernisation. Along with the growth of small scale sector, the Organisation has taken various steps and measures from time to time to secure for this sector their legitimate share of production activities and assisted them in various forms for their sustained growth. It has played a very important role in framing policies in respect of import of capital goods, components/piece parts/raw materials to cater to the needs of small scale sector in consultation with other concerned developing agencies. Special considerations are given in respect of enhancement in the supply of raw materials both imported and scarce category to the small scale units whose requirements are considered to be of genuine nature.

Electronic industry is undoubtedly a very fast developing industry in this country and all possible care is being taken by the SSIDO to see that a new entrepreneur receives assistance in regard to the procurement of machinery on hire-purchase basis and also credit facilities as are being offered by various agencies on preferential terms.

This organisation is also being regularly represented on various committees of the Government where the question of creation of capacities either with the indigenously available technical know-how or foreign collaboration in various fields in the large scale sector are examined, reviewed and considered. The interest of the small scale sector is continuously being safeguarded keeping in view the developmental aspects. All possible care and steps are being taken to see that there is no unhealthy growth and competition between the two sectors. For products involving simpler types of technology for manufacture and which could be successfully produced in the small scale sector, persistent efforts are being made to reserve them for exclusive development in the small scale sector.

In a vast country like India there is obviously a tremendous scope for establishment of small scale ancillary units in and around large scale enterprises which will contribute largely to the economic prosperity of the common masses. This aspect is being kept in view while granting industrial licences to the large scale entrepreneurs. For products where there is possibility of sub-contracting for piece parts and components, it is being made obligatory for large scale entrepreneurs to farm out their requirements to small scale ancillaries in consultation with the SSIDO. The Government is fully conscious of the necessity to provide raw materials of right specifications and supplying imported testing equipments needed by small scale units for manufacturing quality goods.

Keeping in view the non-availability of raw materials, components/piece parts from indigenous sources and also short supply position of certain scarce category raw materials which essentially go with the manufacture of ultimate electronic products, the import policy has been reviewed and liberalised from time to time. This liberalisation has undoubtedly assisted small scale electronic units to grow and develop in a planned and progressive manner. It is worthwhile to mention that much importance has been given to the fast development of electronic industry and in framing the policy this aspect is being fully kept in view and priority accorded.

# LEATHER INDUSTRY

THE leather industry is one of the important traditional industries in India with a large number of units spread out all over the country. The Industry provides full time and part time employment to a large number of people. According to an estimate about 0.8 million people are engaged in the industry which accounts for 6.6 per cent of the total labour force employed in the small scale enterprises and for an estimated output of Rs. 2000 million annually. This industry covers three major spheres of production, viz. tanning of hides and skins, production of footwear and manufacture of leather goods of numerous types. There are also some large scale units in the leather industry engaged in tanning hides and skins and production of footwear. The manufacture of leather goods is entirely in the small and cottage sectors.

The exports of hides and skins and finished leather have been earning considerable foreign exchange for the country. Presently, it contributes about Rs. 900 million per annum in foreign exchange. These earnings are from the export of raw skins, semi-tanned leather, footwear, finished leather, leather manufactures and other by-products.

### Growth of the Industry

The general progress of this industry in India may be reviewed in two parts i.e. progress in the pre-independence period and progress in the post-independence period. In general the leather industry owes its progress to the rise in the level of mechanisation and modernisation, changes in the export demand, the improvement in the organisation, channels of supply and quality and quantum of raw materials available and the provision of technical know-how and guidance from various Government agencies.

The growth of the industry during the pre-independence period was largely attributed to the demand conditions created by two World Wars and not much due to State patronage or through the organised efforts of the *entrepreneurs*. Social prejudices stood in the way of development and the industry could not make headway in the hands of private enterprises. The establishment of a State-owned harness and saddlery factory at Kanpur in 1887 was a turning point in the history of the development of the leather industry. Subsequently a big tannery was also established in Kanpur by a foreign enterprise. The establishment of this tannery helped the growth of small scale tanning industry in and around Kanpur. The raw hides supplied to the Government unit were rejected after the liming operation and these, therefore, had to be taken for further processing by small tanneries which had sprung up in the neighbourhood of Kanpur. Prior to the First World War most of the hides and skins were reported to be exported. The First World War created conditions for internal production since the exports of raw hides were stopped.

The Second World War gave a further boost to the industry and resulted in the change of the whole of import pattern. The sizeable import of footwear and other finished leather products were reduced and the import of footwear fell from Rs. 0.69 million to Rs. 0.014 million during the year 1944-45 from the level of 1913-14.

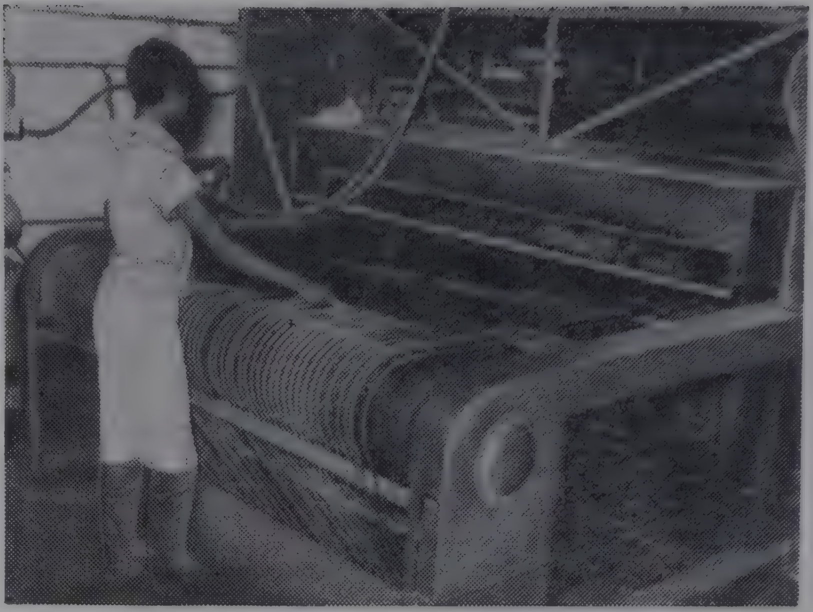
### Post Independence Period

The leather industry suffered a set-back soon after the Second World War with a fall in exports and in the demand within the country. The industry, however, revived as a result of the restriction on imports of finished leather and leather footwear and the encouragement given to the small scale and cottage units in the industry. Government purchases particularly from the small scale units substantially helped the development of the industry. Growing demand for footwear, raw and chrome blue skins from East European countries particularly the Soviet Union, general scarcity conditions in the international leather market leading to a continuous rise in demand, creation of a large market for Indian leather in West Germany (similar to the one in London) giving a direct link with the foreign consumers, increasing interest of West European countries in Indian semi-processed leather products and shift from the traditional items of export to the export of finished products like finished leather, footwear, leather garments and other leather goods to the developed countries were all important factors which lead to the rapid development of the leather industry in India.

### Regional Pattern of the Industry

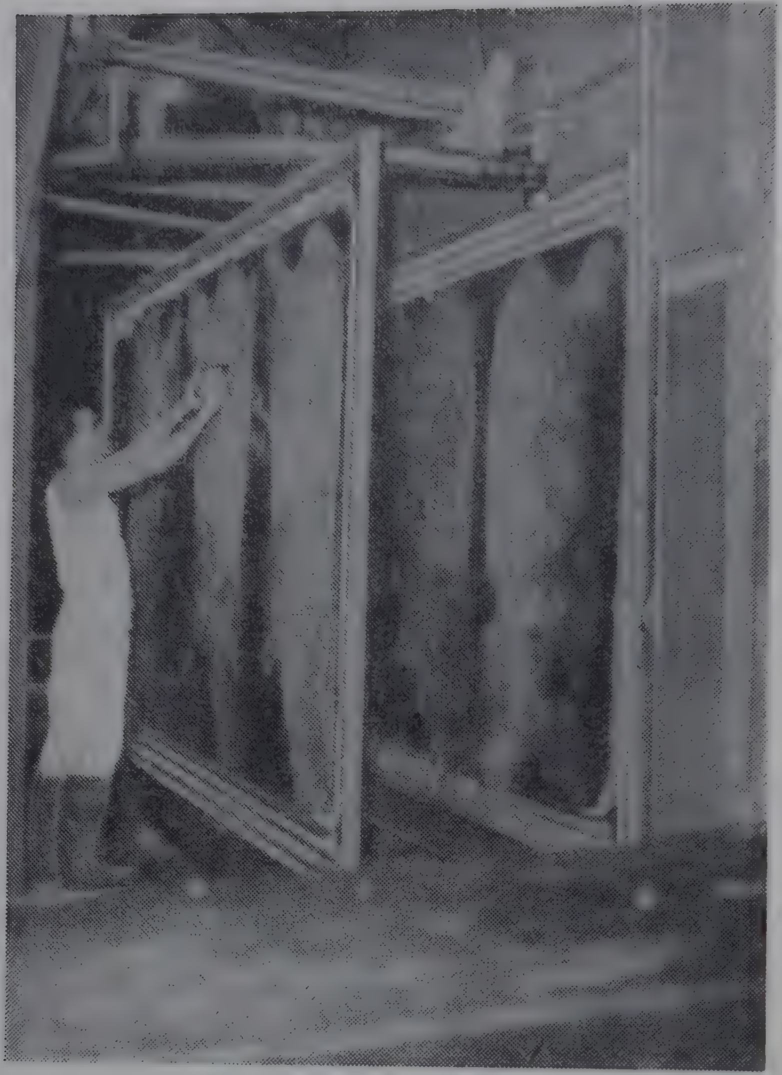
The three major spheres of production in leather industry, referred to earlier, are concentrated in different parts of the country. Tanning of heavy hides is concentrated in Kanpur. Besides, sole leather, Katai, Banwar, Saddlery leather are produced by about 100 small and medium sized tanneries at Kanpur. East India tanning, a traditional and popular process of tanning in the country is concentrated in the Southern part of the country mostly in the States of Tamil Nadu, Andhra Pradesh and Mysore. There are about 1,170 units in the small scale and cottage sectors producing East India tanned leather. These units offer direct employment to about 23,000 workers and their production is estimated to be of the order of Rs. 600 million per annum. Almost the entire quantity of E. I. tanned leather is exported. The export of E.I. tanned leather during 1968-69 was worth Rs. 495.00 million and accounts for 52 per cent of the total export of the leather industry.

Another important process of tanning leather is chrome tanning. This process was first started by tanneries in Madras sometime in the very early part of the present century. However, chrome tanning is concentrated at Dhapa near Calcutta where at the moment 250 small scale units, mostly owned by Chinese tanners, are working. The particular location of these Chinese tanneries in Calcutta also favoured the establishment of a few large scale units during the First War for the manufacture of ammunition boots required by the Defence Services. The major supply of upper leather for footwear industry is obtained mainly from these tanneries in Calcutta. Apart from the consumption within the country, the annual export of chrome leather from Calcutta region during the early part of the fifties was of the order of Rs. 20 million. With the imposition of a ban on cow slaughter, the industry was to depend mainly on fallen stock and at present about 80 to 85 per cent of the raw hides are of the fallen stock. In the circumstances the tanning industry had to switch over to other tannages like combination tannages etc. instead of full chrome tannage producing quality Calf and Box and Willow sides. Presently, with the growth in the demand for grained or suede and other finishd leather, the pattern of processing has also changed. A number of units are also coming up in the Southern part mostly in the State of Tamil Nadu, the home of the E.I. tanned leather.


*Automatic spraying unit for colour spray of upper finish*

### Footwear and Leather Goods

Agra in the State of Uttar Pradesh is the major centre of small and cottage scale shoe making units in the country. Ever since the days of Emperor Sher Shah, some 450 years ago, Agra has been a famous centre for the manufacture of footwear. There are about 3,000 units of which 300 units are in the organised small scale sector. Total employment in all the units in Agra at present is estimated at 40,000 workers and total capital investment is Rs. 28 million. Till the early part of the 'fifties' this centre was meeting the demand for footwear all over the country and was also exporting to African and Arabian countries. The National Small Industries Corporation first started exporting the footwear made in Agra to USSR sometime in 1956. Subsequently export of footwear was canalised through State Trading Corporation (a Government of India Undertaking) and its efforts gave an impetus to the growth of the footwear industry in other parts of the country. Kanpur is another important centre of small and cottage units engaged in the manufacture of open type shoes like Sandals, Chappals etc. and there are about 100 small and cottage units employing about 2,000 workers and producing about 20,000 pairs per day. The footwear industry has also taken root in other centres like Delhi, Calcutta, and Bombay mainly to meet the local demand for footwear such as chappals and sandals. Certain specialised items like 'Kolhapuri' chappals manufactured mostly by cottage units



*Pasting retan upper in Trockenteknik pasting unit*

(numbering about 170 and producing 0·9 million pairs a year) in the districts of Kolhapur, Sangli and Jath in Maharashtra State and Belgaum in Mysore State have also found a market in USA. A few varieties of shoes like 'Juties', 'Nagras' etc. are manufactured in Jaipur, Jodhpur and Lucknow.

The leather goods industry produces various types of leather goods for personal use, industrial use, sports goods etc. This industry is concentrated in Kanpur, Calcutta, Ahmedabad and Bombay. Kanpur is noted for leather suit cases, attache cases and saddlery items. The units in Calcutta are producing items like purses, folio bags, artistic leather goods etc. Leather goods manufacturing units have also sprung up in Bombay recently and they are producing travel requisites and goods for personal use. Industrial leather goods manufacturing units are again concentrated in Calcutta, Ahmedabad and Bombay.

### Structure of the Industry

India has the largest livestock population in the world. In 1968-69, the livestock population of the country was 175 million cattle, 53 million buffalos, 66 million goat, and 43 million sheep. The availability of raw hides and skins during the same year was cattle hides 17.5 million numbers, buffalo hides 9 million numbers, goat skins 36 million numbers and sheep skins 20.5 million numbers. The raw hides and skins primarily go to the tanneries for production of semi-tanned and finished leather of different categories. The processing of this raw material is done in the large, small and cottage sectors. There are about 193,000 tanning units providing direct employment to about 400,000 persons of which 13 units are in the large scale sector, about 800 units in the small scale sector and the rest in the cottage sector. The estimated total investment in the industry amounts to Rs. 180 million of which Rs. 15 million is the investment in the large scale sector and the remaining Rs. 165 million being the investment in the small scale and cottage sectors. The estimated production of tanned hides and skins during the year 1968-69 amounts to 27.5 million and 52 million pieces respectively. The output is classified in two categories (1) "tanned but unfinished hides and skins" and (2) "finished leather". With numerous units scattered all over the country and mostly in the small and cottage sectors, it is difficult to estimate the output of the leather tanning industry. However, in terms of percentage, the large scale sector processes 20 per cent of the total output of tanned leather, the rest 80 per cent being the output of the small and cottage sectors.

The target set for the leather tanning industry is 66.2 million skins and 27.2 million hides by the end of Fourth Plan period. Considering the present status of the industry, this target is not very difficult to achieve. The progress of modernisation in the industry is very rapid. During the period between 1957 and 1968, the import of tanning machinery has gone up from Rs. 0.45 million to Rs. 2·94 million. It is estimated that the demand for tanning machinery will go up at least by five times by the end of the Fourth Plan.

As regards the footwear industry there are at present 10 large scale units and 3,000 small scale units besides a good number of cottage units. The present installed capacity of the large scale units is 22.4 million pairs which will meet the targeted capacity of 28 million pairs by the end of Fourth Five Year Plan. The small scale and cottage sectors are also to attain the targeted capacity of 172 million pairs during the same period from the present production estimated at 156 million pairs. The total target of 200 million pairs is to be reached by the end of Fourth Five Year Plan. The small scale sector of the footwear industry accounts for nearly 75 per cent of the total foreign exchange earnings by the export of footwear. With the increase in the export demand for our footwear it is likely that the small scale sector will maintain its share in the export market in view of the fact that this sector is rapidly mechanising production. The manufacture of footwear being technically and economically feasible for production in the small scale sector, has been exclusively reserved for development in the small scale sector, expansion of the large scale units if any, being allowed subject to export guarantee.

### Marketing Pattern

During the pre-war period, the industry was mostly exporting raw hides and skins and importing finished leather and leather goods. This pattern underwent a change in the post-war period and notably during the last 15 years. At present India is one of the exporters of finished leather, footwear and other leather goods. The export of hides was banned as early as 1952 and at the same time import of hides has been stepped up considerably to meet the growing needs of the industry. In the field of raw skins specially goat skins, the pattern has changed from export of raw skins to semi-finished chrome blue skins. At present export of semi-finished chrome blue skins is of the order of Rs. 280.2 million. The import of footwear was about 2 million pairs valued at Rs. 6·9 million in 1913-14. But at present footwear worth Rs. 71 million is exported. Other leather goods and leather manufactures have also gained a foot hold in the foreign markets and the export of these at present is of the order of Rs. 12.5 million. Import of finished leather was about Rs. 20 million during the early part of the 'fifties' owing to non-availability of good quality hides and finishing materials. This position has also changed in recent years and the export of finished leather during 1969-70 was valued at Rs. 2·3 million.

### Direction of Export

As stated earlier, India has emerged as one of the exporters in the field of leather and leather manufactures. During 1969-70 the value of exports of the industry was Rs. 800 million of which E.I. tanned leather was the major item. Owing to the emphasis on and encouragement given to the exports of finished leather and leather goods, there has been considerable increase in the exports of these items. Cowboy (boot) uppers has been one of the major items of export to USA. Similarly, finished leather comprising of glazed kid, clothing leather, leather for shoes, leather goods, lining leather, fancy leather etc. are exported to Europe, Australia, USA, Canada. A major share of our shoe export goes to USSR where mostly closed shoes are preferred. Footwear is also exported to UAR, USA, Canada, Australia, Scandinavian, African and Arabian countries. Special mention may be made of our artistic leather goods (Santiniketan type) which are exported in bulk to Japan. Japan imported Rs. 0.35 million worth of artistic leather during 1968-69. Saddlery items, which are manufactured at Kanpur by the small and cottage units are exported to UK. West Germany, Belgium, Australia, USA. Export of industrial hand gloves is fast picking up and these are exported mainly to European countries. Alround progress in leather and leather goods export is well demonstrated by the increase in the export of leather items during 1968-69 over 1963-64. The export figure has gone up from Rs. 399·3 million in 1963-64 to Rs. 871.6 million in 1968-69. The most signi-

*Shaving in double width shaving machine*

*Leathers taken out from Revolving Drums after delving*

ficant rise has been in the export of chrome blue hides and skins which has gone up to Rs. 282.3 million from almost nil.

The performance of the small scale sector of leather industry has been very significant in the field of exports. Almost 100 per cent of leather goods export is from the small scale sector. In the export of footwear and East India tanned leathers, the small scale sector contributes 75 per cent and 50 per cent respectively. In the exports of finished leather and chrome blue hides and skins the share of the small scale sector is 40 per cent.

**Target**

The target of export for leather industry as suggested by the Leather Development Council is Rs. 1250.0 million by the end of Fourth Plan. More significantly this target is to be achieved by the export of non-traditional items like footwear and leather goods followed by finished leather. It is expected that the exports of footwear and finished leather would be of the order of Rs. 200.0 million and Rs. 120.0 million during 1973-74 respectively from the level of Rs. 71.00 million and Rs. 28.1 million during 1968-69. Similarly the leather goods export is expected to be around Rs. 30.0 million as compared to Rs. 7.90 million during 1968-69.

**Level of Technology**

Development of technology in this industry has also two distinct phases. During the pre-independence period state patronage was of no significance. The entire development was initiated by the industry which took advantage of the rise in the demand for leather and leather goods during the war period. In the post-independence period, the leather industry received due attention in the plans for industrial development by way of schemes for research and development, training of technicians/craftsmen, extension services, financial assistance etc. Central Leather Research Institute, at Madras is carrying out both fundamental and applied research for the benefit of the leather tanning industry. Small Scale Industries Development Organisation since 1954 has been rendering extension services to introduce modern technology, training of artisans and providing up-to-date know-how etc. Khadi and Village Industries Commission and all the State Directorates of Industries are also offering training facilities and disseminating technical know-how. The technological development is also due to the efforts of the industry itself specially in the field of tanning industry which is more organised and has had the advantage of foreign contacts through the exports of tanned leather over a long period. Technology in the tanning and finishing is, of late, quite comparable with that obtaining in the developed countries. Footwear and leather goods industry entered the export market at a later stage and the exports of these items were handled mostly by the organised units and export houses. The export houses handling these products of small scale units were bringing know-how and were guiding the manufacturers. However, the direct participation of the industry in last 15 years in export marketing has brought about significant changes in the technology.

The Research and Development Cell established by the Export Promotion Council for Finished Leather and Leather Manufacture at Agra is giving new techniques and designs to the industry with a view to increasing the export trade. The Cell is also rendering similar assistance to the Footwear and leather goods industry. The Small Scale Industries Development Organisation has also set up a Precision Shoe Last Factory at Agra for supply of precision lasts to the small scale footwear units. The impact of all these developmental activities is noticeable in the growing demand for our footwear, finished leather and leather goods in the foreign markets. The Leather Goods Development Cell established by the Central Leather Research Institute will also promote technological development in the industry. The need for improving the technology especially in footwear and leather goods industry is both essential and urgent since the industry is expected to enter the export markets in a larger way in the years to come. The various types of assistance and encouragement being given to small scale units have to be reoriented and intensified to enable the industry as a whole to achieve the export targets for it.

# AGRO INDUSTRIES

CONCEPTUALLY agro-industries are the industries dependent not only on the output of agriculture and allied activities but also on the inputs in agriculture like agricultural machinery and implements, fertilizers, pesticides, etc. However, according to the criteria set forth by the Planning Commission, the agro-industries include the industries

(i) which encourage greater inputs into agriculture;
(ii) which lead to better processing and conversion of agricultural commodities; and
(iii) which increase agricultural production.

The importance of the role of agro-industries in the economy of developing countries which are primarily agricultural in character is, therefore, quite obvious and needs no emphasis.

As is well-known, agriculture occupies a pivotal strategic position in Indian economy; it contributes about 46% of the national income, provides livelihood to more than 70% of her people, produces raw materials for a large sector of the industry, supplies the bulk of wage goods of the non-agricultural sector and accounts for over 70% of the export trade directly as well as indirectly. It also exercises a strong influence on other allied sectors of the economy particularly the transport, the marketing, the processing and the financing aspects of agricultural production. According to an estimate, nearly 60% of the total household consumption and 85% of the commodity consumption of household consists of agricultural products, or manufacture based principally on agricultural raw materials.

India's tropical and humid climate as also rich soil are responsible for production of a wide range of food and valuable commercial crops. About 75 per cent of the cultivated land is used for food crops and the rest for cash crops.

The new agricultural strategy introduced in 1966-67 has already started bearing fruits and continues to guide the country's endeavours towards agricultural progress. The production of food-grains which increased from 54.9 million tonnes in 1950-51 to 94 million tonnes in 1968-69 has since exceeded the mark of 100 million tonnes. Cash crops production has also registered an impressive rise of more than 75 per cent. Besides, India ranks first in the world in the production of groundnut, tea, rape seed, sesamum and has a virtual monopoly in the production of lac. She is also the second largest producer of rice, jute and castor seed. In the matter of fruits and nuts, India is a very important producer. Important amongst the chief fruits produced in the country are oranges, mandarins, mangoes, bananas, grapes, pine-apples, lychees, guavas, etc. Fresh vegetables being produced in our country include onions, potatoes, tomatoes, french beans, cabbages, carrots, radish, cauliflower and a host of other temperate and tropical vegetables. The combined production of both fresh fruits and vegetables in the country is of the order of 20 million tonnes.

In view of the predominant position of the agriculture in our economy, all such developments which contribute or affect otherwise the agricultural production are bound to leave positive imprints on the conditions of living of the majority of our people. The recent spurt in agricultural production as a result of the Green Revolution has, therefore, rightly raised new hopes and aspirations of millions of our people and has brought about a progressive approach towards the development of agriculture as also the agro-based industries.

Agricultural affluence brought about by the Green Revolution has contributed to our economic progress in many ways. It has made the village farmer much more prosperous; he has now the resources to invest and has also learnt the use of power and mechanised machines. An element of enterprise has entered his life. The very process of mechanisation of agriculture and the use of power for irrigation and running machines will enable the villagers to handle machinery and equipment run by power for industrial uses. With the increase in production of agricultural produce brought about in the wake of Green Revolution, there is now the climate for more and more people to take to industries. In the prevailing circumstances, therefore, it will not only be desirable but also essential to persuade more and more people to set up small scale industries, particularly those based on the agricultural produce. This will not only provide a great momentum to the development of agro-industries in our country, but also would help mopping up the investible surpluses having accrued because of the prosperity brought about by the recent Green Revolution. It is, therefore, high time that immediate action is taken to make a correct appraisal of the total agricultural surpluses, both existing as well as expected in the next 2-3 years, to list out industries having scope for development in different regions and areas and to persuade the farmers and others to take to industries, of course, after convincing them about the feasibility and utility of industrial production in the villages.

There is scope for developing, on a rational and sound footing, various types of existing industries and for encouraging new processing and manufacturing industries based on a variety of agricultural raw materials as also their by-products. For example, for effective utilisation of increased cotton production, it would be necessary to encourage growth of the cotton textile industries and industries based on cotton and cotton-seeds such as those manufacturing surgical cotton and cotton-seed oil, etc. Similarly, the setting up of oil mills and development of various agro-industries dependent on them such as solvent extraction and production of vegetable fats, soaps & detergents, paints & varnishes, etc. will have to be encouraged in areas producing oil-seeds like groundnut, cotton seed, castor seed, etc. Industries like cigarette manufacturing, bidis and extraction of nicotine from tobacco have good scope in areas growing tobacco. Other such industries having scope for development are the manufacture of rayon grade pulp from bagasse, paper, chip board, industrial alcohol, cattle feed, organic fertilisers, citric acid, banana fibre, banana powder, leather, fruit preservation and canning, grape-wine, etc. There are also good prospects for the development of various types of simple processing activities such as husking of paddy, crushing of groundnut, processing and canning of fruits and vegetables to facilitate preservation and transportation over longer distances. The food processing industries, in particular, have a tremendous potential for development around areas where resources are available and can make a significant contribution towards mitigating the problem of rural unemployment. They are thus amenable to wide dispersal and have in their fold many small scale industries which are labour-intensive.

*Entrepreneurs assembled in one of the Regional Conferences to discuss the prospects of Small Industries.*

*Shri K.L. Nanjappa DC(SSI) speaking in a special Intensive Campaign for the development of rural areas of Telengana & Rayalaseema*

The Small Scale Industries Development Organisation in the Ministry of Industrial Development and Internal Trade is fully alive to this situation and has already risen to the occasion by way of according a high priority to the development of various agro-industries during the Fourth Five Year Plan. An intensive programme for the development of a wide range of agro-industries is contemplated in the years to come. All the State Governments and their Industries Departments, Small Industries Service Institutes and Extension Centres all over the country have already been requested to intensify their efforts for the development of agro-industries. It is contemplated to augment considerably the technical assistance to the units set up both for processing the agricultural produce as well as production of agricultural inputs. Greater attention is being paid to introduce improved machinery and equipment, supply of technical information and economic data, training artisans in higher levels of technology in different trades by establishing common facility centres. Regional Testing Laboratories are also being set up at important centres.

To promote the various types of industries that could be started with local agricultural resources included in the ambit of agro-industries as also those based on the inputs required for the agricultural production, a comprehensive list of agro-industries has been prepared. A coordinated plan alongwith the targets for each year for their development is being chalked out in each State.

More than 130 Area Surveys have since been conducted pointing out the potential for setting up various agro-based industries and a large number of schemes suitable for enterprises to be located in the rural areas have been prepared for supply to the existing as well as prospective entrepreneur. Some of the Small Industries Service Institutes have already drawn up lists of agro-Industries having scope for development in the areas under their jurisdiction. They have also prepared Industry Prospect Sheets in respect of items like Absorbent Cotton, Banana Powder, Card Board and Straw Board, Dehydrated Food products, Fruit Pulps and Juices, Lemon Grass Oil, Palm Rosa Oil, Sandal Wood Oil, Pesticides, Insecticides, Sprayers and Dusters, etc. As it is, many Departments/Ministries are engaged in the development of agro-industries in the small scale sector. The Ministry of Food, Agriculture, Community Development and Cooperation deal with rice mills, oil mills, poultries, dairies, bakeries etc., whereas the Cooperative Department of that Ministry, through the National Cooperative Development Corporation, is assisting agro-industries like cotton ginning and pressing plants, sugar mills, cold storage, oil mills, fruits and vegetables processing, etc. set up in the Cooperative sector. The Department of Agriculture has also promoted Agro Industrial Corporation in different States which undertake, *inter alia*, manufacturing and processing of various agricultural produce besides endeavouring to popularise the use of modern agricultural machinery and implements. Some of these Corporations may in the near future even take up development programmes for livestock, poultry, bakeries, dairies, etc. The development of traditional agro-based industries in the industrial cooperative sector is being looked after by the Khadi & Village Industries Commission and the Commissioner (Industrial Cooperatives) in the Ministry of Industrial Development and Internal Trade, while the Directorate General of Technical Development of that Ministry deals with industries engaged in the manufacture of tractors, power tillers, diesel engines, pumps and timber-based industries like plywood, hard board, chip board, etc. Many State Governments also provide various incentives for the establishment of agro-industries in rural areas. It has, however, been noticed that most of these Departments/Agencies are looking after the regulatory functions only; they are not rendering much of the developmental extension services. Besides, it has also been observed that there is not much coordination amongst the various Departments/Organisations engaged in the development of agro industries with the result that there are many gaps here and there. Such a situation, therefore, clearly indicates the need for giving special attention to those industries and to ensure proper coordination at all levels. This can be done by bringing all these industries under the purview of one organisation which should be fully equipped not only to render the requisite technical assistance but also to bring about technological improvements from time to time so as to keep pace with the rapid changes in technology. Such a coordination is also absolutely necessary between various State Government Departments like the Department of Industries and

*Shri K. Bramhananda Reddy, Chief Minister, Andhra Pradesh inaugurating the Intensive Campaign which promoted a variety of Agro-Industries in Telengana and Rayalaseema.*

Agriculture and Animal Husbandry Department with a view to achieving sound development of agro-based industries on a planned basis. Considering the importance of the development of agro-industries for better utilisation of agricultural raw materials and by-products and their potential for both export promotion as also for speedy rural industrialisation, a Standing Coordination Committee has been set up under the chairmanship of the Additional Secretary Incharge of the Small Scale Industries in the Ministry of Industrial Development and Internal Trade, with the representatives drawn from various Ministries and Organisations dealing with the agro-industries. The main terms of the reference of this committee are:

(i) To coordinate the programmes of various Agencies, Departments and Ministries at present engaged in the development of agro-industries in the small scale sector;

(ii) To consider the wherewithals required for implementing a coordinated programme and the arrangement for providing necessary facilities such as raw materials, credit, technical assistance, marketing and testing facilities, transport concessions and other incentives required for development of agro-industries;

(iii) To consider various other recommendations of the Estimates Committee relating to agro-industries and to make recommendations regarding their implementation.

This committee has since met a number of times and made valuable suggestions for development of agro-industries. A number of panels have also been set up by this committee for detailed examination of the problems and difficulties which stand in the way of speedy development of certain specific industries and to suggest ways and means for their growth on healthy and sound basis. Recently, an All India Seminar on Food Industries, the first of its kind, was organised by the Small Scale Industries Development Organisation in pursuance of the recommendations made by a Study Team on Food Industries set up by the Standing Coordination Committee. This Seminar has made a large number of valuable recommendations with the implementation of which the Food Industry in India is expected to witness a very fast growth.

A Working Group to conduct studies of potential agro-based industries in the small scale sector in areas having agricultural surplus and to provide guidelines to the commercial banks for financing such industries has also been set up, with the following terms of reference:

(a) To conduct studies of potential agro-based industries in specific areas (say in Punjab, Andhra Pradesh, etc.) having substantial/significant agricultural surpluses; and

(b) To recommend guidelines for commercial banks in identifying potential agro-based industries in the small scale sector and areas for promoting entrepreneurship and financing.

This Working Group has set up Study Teams for taking up studies in respect of some important agricultural produce. Some of these Study Teams have even submitted their reports. The findings of these Study Teams would undoubtedly help accelerate the process of development of quite a number of agro-based industries in the small scale sector in the agriculturally surplus States.

## Rural Industries Projects

The Rural Industries Projects Programme which was taken up in 1962-63 covered, to start with, 45 areas in various States and Union Territories, each covering 3 to 5 development blocks with a population of 300 to 500 thousand for intensive development of small industries in rural areas. Later on, 4 more areas near large scale projects of Durgapur, Bhilai, Bhadrawati and Ranchi were added in 1965. A recent evaluation study of the 49 Rural Industries Projects revealed that 55 per cent of the industries started in these pilot projects were agro-industries. Facilities for the procurement of modern machinery and equipment to the small scale units as also training facilities in improved techniques of production provided under this programme would help considerably the growth of quite a number of agro-industries in these projects.

## Index of Potential Production and Potential Utilisation Ratio

Recently a study was conducted by the Department of Statistics, Reserve Bank of India about the index of potential production and potential utilisation ratio for the manufacturing industries in India (including agro-based-industries) during the period 1960-68. According to the findings of this Study, the index of potential production for all manufacturing industries with base 1960=100 showed an increase of 68 per cent during the period 1960-68 while the rise in the potential index of agro-based industries during the period was the smallest compared to other groups of industries, being only 27 per cent;

as against 138 per cent recorded by the capital goods industries; 106 per cent in basic industries; 57 per cent in case of intermediate goods industries and 45 per cent in consumer goods industries. The utilisation ratio in the case of agro-based industries during the year 1967 and 1968 was comparatively low mainly due to the setback in the agricultural production during the drought years 1965-66 and 1966-67 which in turn affected the supply of inputs. However, in the year 1968 a slight increase in potential utilisation ratio was observed mainly because of an improvement in the supply position brought about by the higher output in agriculture during the years 1967-68 compared with the previous two years. This ratio would have been higher still if the food manufacturing industries had also picked up in the year 1968. However, keeping in view the trends in the agricultural production in the last two years as also the increase in production of various agricultural produce expected during the Fourth Five Year Plan, as indicated in the following table, the future prospects of the agro-based industries appear to be much brighter.

**Provisional projection of the production of major agricultural crops from 1968-69 to 1980-81**

| | Unit | 1968-69 | 73-74 | 78-79 | 80-81 |
|---|---|---|---|---|---|
| Food grains | Milln. tonnes | 94 | 129 | 155 | 167 |
| Sugar cane (in terms of gur) | Milln. tonnes | 12 | 15 | 20 | 22 |
| Oilseeds | Milln. tonnes | 6.9 | 10.5 | 14 | 15.2 |
| Cotton yarn | '000 tonnes | 959 | 1150 | 1500 | 1680 |
| Sugar | '000 tonnes | 3559 | 4700 | 6500 | 7500 |

The fact, however, remains that rapid development of agro-industries is beset with a multitude of problems which have to be tackled at all levels, on a priority basis. The rural localities, as is well-known, generally lack the basic infra-structural facilities such as availability of adequate power, efficient transport and communication system, technical education and the much needed marketing facilities. There is, therefore, an urgent need for according special priority for establishment of a good network of roads, provision of adequate communications and other basic facilities with a view to ensure speedy development of agro-industries in the rural areas. Since there cannot be any automatic or spontaneous development without such basic facilities being provided, it becomes very essential to have a well thought-out plan for integrated development of different sectors like agriculture, industries and infrastructures in such a way that the development of each will influence and sustain the development of the other.

Finance is the life-blood of all industries, but unfortunately, lack of adequate finance is the greatest bottleneck which impedes the development and growth of small scale industries particularly in rural areas. The facilities for the supply of cheap and liberalised credit in rural sector have, therefore, to be extended forthwith to facilitate the rapid development of agro-industries. The banks should be urged to take greater interest in developing business operations in the rural sector and to accord high priority for meeting the credit needs of the agro-industries.

An entrepreneur in a rural area, especially, has to face many more problems, unlike his counterparts in urban areas, in starting and running an industrial unit. He would, therefore, be very reluctant to set up an industry in a rural area until and unless certain attractive incentives and facilities are offered to him. In this connection it is heartening to note that the Government has recently announced the grant of a subsidy amounting to 1/10th of the fixed capital investment to new units having total fixed capital of not more than Rs. 5 million in selected districts all over the country. Besides, a large number of districts have also been selected as qualifying for concessions from financial institutions. Some of the important financial and credit institutions like the Industrial Development Bank of India, Industrial Finance Corporation of India and the Life Insurance Corporation of India have also come forward to offer additional incentives in pursuance of the Government Policy to help promote the development of industries including the agro-based ones in selected backward districts. With all these incentives and the efforts being put in by various Governmental as well as other agencies, it is hoped that a large number of agro-industries would soon emerge all over the country providing employment for millions, and also would thereby pave the way for balanced economic growth.

In conclusion it may be emphasised again that agro-industries is a very vast field with great potential for new industrial activities. A massive programme for the development of agro-industries will also to a large extent, solve the growing problem of unemployment in the country.

# INFORMATION DIGEST

# 1

## 1. ADDRESSES OF ORGANISATIONS CONCERNED WITH SMALL INDUSTRY DEVELOPMENT

- I Small Industries Service Institutes
- II Workshops and Laboratory Facilities Offered by SSIDO
- III National Small Industries Corporation Ltd. and Regional Offices
- IV Directorates of Industries
- V State Financial Corporations
- VI State Small Industries Corporations
- VII State Export Corporations
- VIII Export Promotion Councils
- IX Commodity Boards
- X Offices of the Chief Controller of imports and Exports
- XI Export Promotion Officers at the Ports
- XII Offices of the State Trading Corporation
- XIII Research Institutes under the Council of Scientific and Industrial Research Organisation
- XIV Small Industry Associations in India
- XV Some Important Large Scale Industrial Establishments which Make Regular Purchases From Ancillary Small Units
- XVI Nationalised Banks

## I SMALL INDUSTRIES SERVICE INSTITUTES

ANDHRA PRADESH
Swarna Vilas,
3-4-812, Barkatpura,
Hyderabad-27.

ASSAM
Opposite Industrial Estate,
P.O. Bamunimaidan,
Gauhati.

BIHAR
Prasad Mansion,
Rajendra Path,
Patna-1.

DELHI
Opposite Industrial Estate,
Okhla,
New Delhi-20.

GUJARAT
1/5 Jagnath Plot,
Rajkot (Branch Institute).

Dudheshwar Road,
Opp. Rustam Jahangir Vakil Mills,
Ahmedabad-1.

JAMMU & KASHMIR
School of Designs Building,
Karan Nagar,
Srinagar.

17-D, Gandhi Nagar
Jammu-4 (Branch Institute).

KERALA
Kerala Verma College Road,
Trichur-4.

MADHYA PRADESH
10, Industrial Estate,
Polo Ground,
Indore-3.

MAHARASHTRA
Kurla Andheri Road, Saki-Naka,
Bombay-72.

C/o Deputy Director of Industries
Sadar, Nagpur (Branch Institute).

MYSORE
Rajaji Nagar,
Bangalore-10.

Bachi Lodge, Club Road,
Hubli (Branch Institute).

ORISSA
Mahanadi Road, Tulsipur,
Cuttack-1.

PUNJAB
Industrial Area 'B',
Ludhiana.

GOA
Miranda Building, Mira-baz,
Margao, Goa (Branch Institute).

RAJASTHAN
Mirza Ismail Road,
Jaipur.

TAMIL NADU
65/1, G.S.T. Road,
Madras-32.

UTTAR PRADESH
107, Industrial Estate,
Kalpi Road,
Kanpur.

Avagarh House,
121, Mahatma Gandhi Road,
Agra (Branch Institute).

Industrial Estate,
Naini,
Allahabad (Branch Institute).

WEST BENGAL
111 & 112, B.T. Road,
Calcutta-35.

## II WORKSHOPS AND LABORATORY FACILITIES OFFERED BY S.S.I.D.O.

| S.No. | Name of the Place | Facilities available |
|---|---|---|
| | ANDHRA PRADESH | |
| 1. | SISI Hyderabad | Testing Unit for Ceramics, Chemical and Analytical Laboratory; Laboratory for Sand & Metal Testing. |
| 2. | E.C. Sanatnagar | Tool Room, General Engineering and Electroplating. |
| 3. | E.C. Vijayawada | General Engineering & Foundry. |
| 4. | E.C. Papanaidupet | Glass Tube & Glass Beads. |
| | ASSAM | |
| 5. | SISI Gauhati | Heat Treatment, Forge Shop, Mechanical Testing, Electrical & Metal Testing, Foundry Testing and Chemical Laboratory. |
| 6. | E.C. Tinsukia | General Engineering & Electroplating. |
| 7. | E.C. Jorhat | General Engineering & Electroplating. |
| 8. | E.C. Dimapur | General Engineering & Electroplating. |
| | BIHAR | |
| 9. | SISI Patna | Chemical Laboratory & Machine Shop. |
| 10. | E.C. Dhanbad | General Engineering & Electroplating. |
| 11. | E.C. Muzaffarpur | General Engineering & Electroplating |
| 12. | E.C. Ranchi | Footwear & Leather Goods. |
| | DELHI | |
| 13. | SISI New Delhi | Tool Room & General Engineering, Ceramics Workshop, Foundry and Sand Testing, Mechanical Testing, Chemical Laboratory. |
| 14. | E.C. Balsahyog | Cane and Wooden Furniture, Sheet Metal Working, Tailoring. |
| | GUJARAT | |
| 15. | SISI Ahmedabad | Advisory service only. |
| 16. | B.I. Rajkot | Advisory service only. |
| 17. | E.C. Bhavnagar | General Engineering. |

| S.No. | Name of the Place | Facilities available |
|---|---|---|
| 18. | E.C. Jamnagar | Electroplating, Foundry and Sand Testing. |
| 19. | E.C. Nadiad | General Engineering & Carpentry. |
| 20. | E.C. Savarkundla | Blacksmithy & Flame Cutting. |
| 21. | E.C. Surat | General Engineering, Foundry and Sand Testing. |
| | HARYANA | |
| 22. | E.C. Ambala | Scientific Glass Blowing Training Facilities and Tool Room. |
| 23. | E.C. Yamunanagar, Jagadhari | Consultancy Service. |
| 24. | E.C. Rewari | Foot-wear, Electroplating and Non-ferrous Foundry. |
| | HIMACHAL PRADESH | |
| 25. | E.C. Solan | Training in Thermometer manufacture and Glass Blowing. |
| | JAMMU & KASHMIR | |
| 26. | SISI Srinagar | General Engineering, Carpentry and Leather. |
| 27. | B.I. Jammu | General Engineering and Chemical Laboratory. |
| | KERALA | |
| 28. | SISI Trichur | General Engg. and Fruit Preservation. |
| 29. | E.C. Trichur | Footwear and Leather Goods. |
| 30. | E.C. Attingal | Aluminium & Stainless Steel Utensils and Hospital Wares. |
| 31. | E.C. Alleppy | General Engineering. |
| 32. | E.C. Muvattuphuza | Tin Can & Tin Printing. |
| 33. | E.C. Kallai | Wood Seasoning & Carpentry. |
| 34. | E.C. Shoranur | General Engineering. |
| 35. | P.C. Ettumanur | Production Centre for Machine and Hand Tools. |
| 36. | P.C. Thiruvalla | Production Centre for Electric Motors. |
| | MAHARASHTRA | |
| 37. | SISI Bombay | Tool Room, General Engineering, Carpentry and Sheet Metal, Chemical Laboratory, Ceramics, Manufacture of Forgings and Surgical Instruments. |
| 38. | E.C. Poona | General Engineering & Electroplating. |
| 39. | E.C. Kolhapur | General Engineering, Foundry and Sand Testing. |
| | MADHYA PRADESH | |
| 40. | SISI Indore | Tool Room, General Engineering, Chemical Laboratory, Metallurgical and Sand Testing Laboratory. |
| 41. | E.C. Jabalpur | General Engineering & Electroplating. |
| 42. | E.C. Gwalior | General Engineering. |
| 43. | E.C. Ujjain | General Engineering. |
| | MYSORE | |
| 44. | SISI Bangalore | Tool Room & General Engineering. |
| 45. | B.I. Hubli | General Engineering. |
| 46. | E.C. Belgaum | General Engineering. |
| 47. | E.C. Mysore | General Engineering. |
| | ORISSA | |
| 48. | SISI Cuttack | Tool Room & General Engineering. |
| 49. | E.C. Jharsuguda | General Engineering & Wood-working. |

| S.No. | Name of Place | Facilities available |
|---|---|---|
| | PUNJAB | |
| 50. | SISI Ludhiana | Tool Room and General Engineering. |
| 51. | E.C. Batala | General Engineering. |
| 52. | E.C. Jullundur | Sports Goods. |
| | RAJASTHAN | |
| 53. | SISI Jaipur | Tool Room, General Engineering, Chemical Laboratory, Paints & Varnish, Leather, Footwear. |
| 54. | E.C. Kotah | General Engineering. |
| 55. | E.C. Jodhpur | General Engineering and Footwear. |
| 56. | E.C. Udaipur | General Engineering and Electroplating. |
| | TAMIL NADU | |
| 57. | SISI Madras | Tool Room and Machine Shop. |
| 58. | CFTC Madras | Training in Footwear Manufacture. |
| 59. | E.C. Erode | Leather Finishing. |
| 60. | E.C. Coimbatore | Foundry |
| 61. | E.C. Madurai | General Engineering & Blacksmithy. |
| 62. | E.C. Pondicherry | General Engineering. |
| | UTTAR PRADESH | |
| 63. | SISI Kanpur | General Engineering, Tool Room Laboratories. (At present only advisory functions). |
| 64. | B.I. Allahabad | Tool Room, General Engineering, Sheet Metal and Chemical Laboratories. |
| 65. | B.I. Agra | General Engineering, Metal and Sand Testing. |
| 66. | PSLF Agra | Shoe Lasts. |
| 67. | CFTC Agra | Training in manufacture of Footwear. |
| 68. | E.C. Aligarh | Tool Room & General Engineering. |
| 69. | E.C. Ferozabad | Glass Testing Facilities |
| 70. | E.C. Meerut | Tanning and other facilities regarding Sports Goods. |
| 71. | E.C. Varanasi | General Engineering. |
| | WEST BENGAL | |
| 72. | SISI Calcutta | Tool Room, General Engineering, Chemical, Electrical, Metallurgical, Metal and Sand Testing Laboratories. |
| 73. | E.C. Bankura | Blacksmithy and Carpentry. |
| 74. | E.C. Baruipur | Carpentry. |
| 75. | E.C. Bon-Hooghly | Ceramic. |
| 76. | E.C. Habra | Smithy & Heat Treatment. |
| 77. | E.C. Kalyani | Tool Room & General Engineering. |
| 78. | E.C. Malda | Smithy and Carpentry. |
| 79. | E.C. Manicktala | Footwear and Leather Goods. |
| 80. | E.C. Nabadwip | Brass and Bell Metal. |
| 81. | E.C. Tangra | Leather Finishing. |
| | GOA | |
| 82. | B.I. Margao | General Engineering, Chemical, Ceramics Testing Laboratories. |

SISI — Small Industries Service Institute
EC — Extension Centre
BI — Branch Institute
PC — Production Centre
CFTC — Central Footwear Training Centre
PSLF — Precision Shoe Last Factory

## III NATIONAL SMALL INDUSTRIES CORPORATION LTD. AND ITS REGIONAL OFFICES

CENTRAL OFFICE
Near Industrial Estate,
Okhla,
New Delhi-20.

1. **Eastern Region**
2 St. George Gate Road,
Calcutta-32.
2. **Northern Region**
Near Industrial Estate,
Okhla, New Delhi-20.
3. **Western Region**
Prestiege Chambers,
Near Masjid Station,
Kalyan Street,
P.O. Chinch Bunder.
Bombay-9.
4. **Southern Region**
123, Mount Road,
Madras-6.

## IV DIRECTORATES OF INDUSTRIES OF STATES & UNION TERRITORIES

1. Directorate of Industries,
Government of Andhra Pradesh,
Hyderabad (A.P.).
2. Directorate of Industries,
Government of Assam,
Shillong.
3. Directorate of Industries,
Government of Bihar,
New Secretariat,
Patna.
4. Secretary-cum-Director of Industries,
Chandigarh Administration,
Chandigarh.
5. Directorate of Industries,
Delhi Administration,
Old Secretariat,
Delhi.
6. Directorate of Industries,
Goa Administration,
Opp. Municipal Corporation,
Panaji (Goa).
7. Industries Commissioner,
Government of Gujarat,
Multi-Storeyed Building,
Lal Darwaja,
Ahmedabad-1.
8. Directorate of Industries,
Government of Haryana,
Chandigarh.
9. Directorate of Industries,
Government of Himachal Pradesh,
Simla.
10. Directorate of Industries & Commerce,
Government of Jammu & Kashmir,
Srinagar.
11. Directorate of Industries & Commerce,
Government of Kerala,
Trivandrum.
12. Directorate of Industries,
Government of Madhya Pradesh.
Old Secretariat,
Bhopal.
13. Directorate of Industries,
Government of Meghalaya,
Shillong.
14. Directorate of Industries,
Government of Tamil Nadu,
Chepauk, Madras.
15. Industries Commissioner,
Government of Maharashtra,
Sachivalaya Annexe, Bombay.
16. Industries Commissioner,
Vidhan Veeddy, Bangalore-1

17. Directorate of Industries,
Manipur Administration, Imphal.

18. Directorate of Industries,
Government of Nagaland, Kohima.

19. Directorate of Industries,
Government of Orissa,
Killa Maidan, Cuttack-1.

20. Directorate of Industries,
Government of Pondicherry,
Botanical Gardens, Pondicherry.

21. Directorate of Industries,
Government of Punjab, Chandigarh.

22. Directorate of Industries & Supplies,
Government of Rajasthan, Jaipur.

23. Directorate of Industries,
Dadra and Nagar Haveli,
Silvasa.

24. Directorate of Industries,
Government of Tripura, Agartala.

25. Directorate of Industries,
Government of Uttar Pradesh,
Udyog Bhavan, G.T. Road, Kanpur.

26. Directorate of Cottage & Small Scale Industries,
New Secretariat Building,
1, Kirna Shanker Roy Road, Calcutta.

## V STATE FINANCIAL CORPORATIONS

1. Andhra Pradesh State Financial Corporation,
P.B. No. 165,
5—9—194, Chirag Ali Lane,
Hyderabad.

2. Assam Financial Corporation,
Clanerquart House,
Shillong-1.

3. Bihar State Financial Corporation,
Fraser Road,
Patna-1.

4. Delhi State Financial Corporation,
Saraswati Bhawan,
E-Block, Connaught Place,
New Delhi-1.

5. Gujarat State Financial Corporation,
Marketing Society's Building,
Opp. Relief Cinema,
P.O.B. No. 202,
Relief Road,
Ahmedabad-1.

6. Haryana Financial Corporation,
Chandigarh.

7. Jammu & Kashmir State Financial Corporation,
PWD Building, Nehru Market,
Opp. New Transport Yard,
Jammu Tawi.

8. Kerala State Financial Corporation,
Vellayambalam
Trivandrum-1.

9. Maharashtra State Financial Corporation,
United India Building,
Sir P.M. Road,
Bombay-1.

10. Madras Industrial Investment Corporation,
150-A, LLA Building,
Mount Road,
Madras-2.

11. Madhya Pradesh Financial Corporation,
Shiv Vilas Place,
Indore-2.

12. Mysore State Financial Corporation,
"Sri Sailem"
No. 7, First Main Road,
Gandhinagar,
Bangalore.

13. Orissa State Financial Corporation,
Killa Maidan,
Cuttack-1.

14. Punjab Financial Corporation,
72/73, Sector 17-B,
Bank Square,
Chandigarh.

15. Rajasthan Financial Corporation,
C-18, Bhagwandas Road,
Surya Niwas,
Jaipur.

16. Uttar Pradesh Financial Corporation,
7/174, Swarupnagar,
Kanpur.

17. West Bengal Financial Corporation,
23-Rajendra Nath Mukherjee Road,
Calcutta.

## VI STATE SMALL INDUSTRIES CORPORATIONS

1. The Andhra Pradesh Small
Scale Industrial Development
Corporation Ltd.,
B-1-174, Fateh Maidan Road,
Hyderabad-4.

2. The Assam Small Industries
Development Corporation Ltd.,
Industrial-1 Block,
Gauhati.

3. The Bihar State Small
Industries Corporation Ltd.,
S.P. Varma Road,
Patna-1.

4. The Gujarat Small Industries
Corporation Ltd.,
Ambica Niwas, Ashram Road,
Navrangpura, Ahmedabad.

5. The Haryana State Small
Industries and Export
Corporation, Bank Square,
Sector 17-D,
Chandigarh.

6. The Kerala State Small
Industries Corporation Ltd.,
Pattom Kandiar Road,
Trivandrum-4

7. The Maharashtra Small Scale
Industrial Development
Corporation Ltd.,
Bombay Life Building,
5th Floor, 45 Veer Nariman Road,
Bombay-1.

8. The Madhya Pradesh Laghu
Udyog Nigam Ltd.,
Bhopal.

9. The Mysore Small Industries
Corporation Ltd.,
Administrative Office Buildings,
Industrial Estate,
Rajaji Nagar,
Bangalore.

10. The Orissa Small Industries
Corporation Ltd.,
P.B. No. 85, Killa Maidan,
Cuttack-1.

11. The Punjab State Small
Industrial Corporation Ltd.,
Chandigarh.

12. The Rajasthan Small Industries
Corporation Ltd.,
K-18, Durga Dass Path,
Malviya Marg, 'C' Scheme,
Jaipur.

13. The Tamil Nadu Small
Industries Corporation Ltd.,
Khaleeli Mansion,
35/2, Woods Road,
Madras-2.

14. The Uttar Pradesh Small
Industries Corporation Ltd.,
14/40 Civil Lines,
Kanpur.

15. The West Bengal Small
Industries Corporation Ltd.,
45, Ganesh Chandra Avenue,
Calcutta-13.

## VII STATE EXPORT CORPORATIONS

1. Gujarat Export Corporation,
Industry House,
Opp. H.K. Arts College,
Ahmedabad-9.

2. Uttar Pradesh Export Corporation,
C/o Directorate of Industries,
Kanpur.

3. Haryana State Small Industries
and Export Corporation,
Bank Square,
Sector 17-D,
Chandigarh.

4. Punjab Export Corporation,
United Commercial Bank Building,
3rd. Floor,
Sector 17-B, Chandigarh.

## VIII EXPORT PROMOTION COUNCILS

| | | |
|---|---|---|
| 1. | Cashew Export Promotion Council | 'World Trade Centre', Mahatma Gandhi Road, Ernakulam. |
| 2. | Chemicals & Allied Products Export Promotion Council | 14-1B, Ezra St., 2nd Floor, Calcutta-1. |
| 3. | Cotton Textile Export Promotion Council | Cecil Court, 4th floor, 26, Landsdowne Road, Appollo Bunder, Bombay-1. |
| 4. | Engineering Export Promotion Council | 14-B, Ezra Street (3rd floor), Calcutta-1. |
| 5. | Leather Export Promotion Council | 3/38, Vepery High Road, Madras-3. |
| 6. | Marine Products Export Promotion Council | 'World Trade Centre', Mahatma Gandhi Road, Ernakulam. |
| 7. | Mica Export Promotion Council | 6, Dacres' Lane, Calcutta. |
| 8. | Plastics and Linoleums Export Promotion Council | Patel Industrial Centre, 2nd Floor, 69, Tardeo Road, Bombay-34. |
| 9. | Shellac Export Promotion Council | 11, Sooterkin Street, Calcutta-13. |
| 10. | Silk & Rayon Textiles Export Promotion Council | Resham Bhawan, 78, Veer Nariman Road, Bombay. |
| 11. | Spices Export Promotion Council | 'World Trade Centre',<br>Mahatma Gandhi Road, Ernakulam |
| 12. | Sports Goods Export Promotion Council | 1-E/6, Jhandewala Extension, New Delhi. |
| 13. | Tobacco Export Promotion Council | 116-117, Moore Street, Madras-1. |
| 14. | Processed Foods Export Promotion Council | 119, Jorbagh, New Delhi-3. |
| 15. | Basic Chemicals, Pharmaceuticals & Soaps Export Promotion Council | Plot No. 56, Ashok Chambers, 5th Floor, Broach Street, Bombay-1. |
| 16. | Export Promotion Council for Finished Leather and Leather Manufactures | c/o Director of Industries, Govt. of U.P.,<br>G.T. Road, Kanpur. |
| 17. | Wool and Woollen Goods Export Promotion Council | c/o Indian Woollen Mills Federation,<br>G4, Advent Buildg. Foreshore Road, Bombay. |

## IX COMMODITY BOARDS

| | | |
|---|---|---|
| 1. | The Central Silk Board | 'Megdoot' 95, B, Marine Drive, Bombay. |
| 2. | The Tea Board | 27 & 29, Brabourne Road, Calcutta. |
| 3. | The Coir Board | Ernakulam (Kerala). |
| 4. | The Rubber Board | Kottayam. |
| 5. | The Coffee Board | Bangalore. |
| 6. | The All-India Handicrafts Board | Willingdon, Talkatora Road, New Delhi. |
| 7. | The All-India Handloom Board, Post Box No. 10004 | Bombay-1. |
| 8. | Directorate of Cardamom Development & Marketing | Bangalore. |

## X OFFICES OF THE CHIEF CONTROLLER OF IMPORTS & EXPORTS

1. The Chief Controller of Imports and Exports,
Udyog Bhavan, New Delhi-11.

2. The Joint Chief Controller of Imports and Exports,
4, Esplanade East, Calcutta.

3. The Joint Chief Controller of Imports and Exports,
Central Government Offices,
New Building, S.E. Wing,
New Marine Lines, Church Gate,
Bombay.

4. The Joint Chief Controller of Imports and Exports,
Customs House, Madras.
5. The Joint Chief Controller of Imports and Exports,
Central Licensing Area,
Indraprastha Bhawan, 'A' Wing,
New Delhi.
6. The Deputy Chief Controller of Imports & Exports,
Ashirvad Building, Panjim.
7. The Deputy Chief Controller of Imports & Exports,
Ernakulam.
8. The Deputy Chief Controller of Imports & Exports,
114/1-B, Benajj-habar, Kanpur-42.
9. The Controller of Imports and Exports,
Desai Building, Bhupindra Road,
New Town Hall, Rajkot.
10. The Controller of Imports and Exports,
P.B. No. 14, Pondicherry.
11. The Controller of Imports and Exports,
7, Port Land Park, Visakhapatnam.
12. The Deputy Chief Controller of Imports & Exports,
Syndicate Bank Building,
P.B. No. 688, Gandhinagar,
Bangalore-9.
13. The Controller of Imports and Exports,
CBR Building, Mall Road,
Amritsar.
14. The Controller of Imports and Exports,
Srinagar,
15. The Controller of Imports and Exports,
Customs House, New Kandla.
16. The Controller of Imports and Exports,
Morcle Building, Shillong.

## XI EXPORT PROMOTION OFFICERS AT THE PORTS

1. Joint Director (Export Promotion)
Office of the Joint Chief Controller
of Imports & Exports,
New Marine Lines, Churchgate,
Bombay.
2. Deputy Chief Controller (Export Promotion)
Office of the J.C.C.I. & E.,
Customs House, Madras.
3. Deputy Chief Controller,
(Export Promotion)
Office of the J.C.C.I. & E.,
4, Esplanade East, Calcutta.
4. Deputy Chief Controller,
(Export Promotion)
Office of the J.C.C.I. & E.,
T.D. Road, Ernakulam-1.

## XII OFFICES OF THE STATE TRADING CORPORATION

1. The State Trading Corporation of India Ltd.,
Chanderlok, Janpath,
New Delhi.
2. The State Trading Corporation of India Ltd.,
159, Church Gate Reclamation,
Bombay.
3. The State Trading Corporation of India Ltd.,
13, Lindsay Street,
Calcutta.
4. The State Trading Corporation of India Ltd.,
123, Mount Road, Madras.

## XIII RESEARCH INSTITUTES UNDER THE COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION

1. Central Mechanical Engineering Research Institute, Durgapur.
2. Central Fuel Research Institute, Jalgora.
3. Central Glass and Ceramic Research Institute, Calcutta.
4. Central Road Research Institute, New Delhi.
5. Indian Institute of Petroleum, Dehradun.
6. Central Building Research Institute, Roorkee.
7. Central Indian Medical Plant Organisation, Lucknow.

8. Regional Research Laboratory, Jammu.
9. Central Electro Chemical Research Institute, Karaikudi.
10. Central Mining Research Institute, Dhanbad.
11. Central Salt and Marine Chemicals Research Institute, Bhavnagar.
12. Central Food Technological Research Institute, Mysore.
13. Indian Institute of Biochemistry and Experimental Medicine, Calcutta.
14. National Chemical Laboratory, Poona.
15. National Physical Laboratory, New Delhi.
16. National Metallurgical Laboratory, Jamshedpur.
17. Central Public Health Engineering Research Institute, Nagpur.
18. Central Drug Research Institute, Lucknow.
19. Central Electronic Engineering Research Institute, Pilani.
20. Regional Research Laboratory, Hyderabad.
21. Regional Research Laboratory, Jorhat.
22. Central Leather Research Institute, Madras.
23. National Aeronautical Laboratory, Bangalore.
24. Central Scientific Instrument Organisation, Chandigarh.
25. National Botanical Gardens, Lucknow.
26. Birla Industrial Technological Museum, Calcutta.
27. National Geophysical Research Institute, Hyderabad.
28. Regional Research Laboratory, Bhubaneswar.
29. Structural Engineering Research Centre, Roorkee.

## XIV SMALL INDUSTRY ASSOCIATIONS IN INDIA

1. The Federation of Associations of Small Industries of India,
23-B/2, Rohtak Road,
New Delhi-5.
2. The Federation of Associations of Small Industries of India,
67-71, Tamarind Lane,
Fort Chamber, Bombay-1.
3. The Federation of Associations of Small Industries of India,
116-A, Lower Circular Road,
II Floor, Calcutta-14.
4. The Federation of Associations of Small Industries of India,
Southern Region,
10, G.S.T. Road,
Madras-32.
5. Andhra Pradesh Small Industries Association,
Industrial Estate,
Vijayawada-7 (A.P.).
6. Bihar Small Scale Industries Association,
Rajendra Path,
Station Road,
Patna-1 (Bihar).
7. Ranchi Small Scale Industries Association,
C/o Kapee & Co.,
Lalji Hirji Road,
Ranchi (Bihar).
8. Okhla Industrial Estate Association,
Okhla Industrial Estate,
New Delhi-20.
9. Small Scale Industries Association,
33, Deputy Ganj,
Delhi-6.
10. Bihar State Federation of Small Scale Industries,
Sinha Library Road,
Patna-1 (Bihar).
11. Bhavnagar Small Industries Association,
Darbargadh,
Bhavnagar (Gujarat).
12. Federation of Small Scale & Cottage Industries,
Dada Saheb's Haveli, Mandvi,
Baroda.
13. Gujarat State Small Industries Federation,
C/o Gujarat Chamber of Commerce,
Ashram Road, P.B. No. 162,
Ahmedabad (Gujarat).
14. The Kerala State Small Industries Association,
New Road,
Cochin-2 (Kerala).
15. The Kozhikode District Small Scale Industries Association,
Varthakamandalam Office,
Calicut-2 (Kerala).
16. Madhya Pradesh Small Scale Industries Organisation,
33, Malviya Nagar,
Bhopal (M.P.).
17. Small Scale Industries Association,
44, Mount Road,
Madras.

18. Bombay Small Scale Industries Association,
91/93, Pathan Street,
Bombay-4.

19. Jabalpur Small Scale Industries Association,
C/o Singh & Co. Workshop,
Naudara Bridge,
Jabalpur (M.P.).

20. Raipur District Small Industries Association,
C/o Vijay Soap Works,
Post Box 28/60,
Raipur (M.P.).

21. Central Bombay Small Scale Industries Association,
C/o New Metal Works,
56, Clark Road,
Jacob Circle,
Bombay-11.

22. All Mysore Small Scale Industries Association,
1-Main Road,
Gandhi Nagar,
Bangalore-9 (Mysore).

23. Orissa Small Scale Industries, Association,
P.O. Chauliaganj,
Cuttack-3 (Orissa).

24. Industries Association of Chandigarh,
105, Industrial Area,
Chandigarh (Punjab).

25. Federation of Association of Small Industries of Rajasthan,
C/o M/s. Trade & Wings,
Tholia Circle,
Jaipur.

26. Jaipur Small Industries Association,
Post Box No. 36,
Tripolia Bazar,
City Palace Road,
Jaipur.

27. Jodhpur Industries Association,
66, Jaswant Buildings,
Jodhpur (Rajasthan).

28. Ajmer District Small Industries & Handicraft Association,
Prem Niwas,
Rawan Ki Bagichi Road,
Kaisanganj,
Ajmer (Rajasthan).

29. The Nagaur District Small Industries Association,
C/o Emery Stone Mfg. Co.,
Kuchaman Road,
P.O. Nagaur (Rajasthan).

30. Small Scale Industries Association,
C/o Central Granite Crushing Co.,
Jar Pahar,
Jhansi (U.P.).

31. U.P. Small Scale Industries Association,
106/377 'P' Road,
Kanpur (U.P.).

32. Federation of Small & Medium Industries,
West Bengal, P-11,
Mission Row Extension,
Calcutta-1.

## XV SOME IMPORTANT LARGE SCALE INDUSTRIAL ESTABLISHMENTS WHICH MAKE REGULAR PURCHASES FROM ANCILLARY SMALL UNITS

1 M/s. Ashok Leylands Ltd., Ennore, Madras.
2. M/s. Enfield India Ltd., Madras.
3. M/s. English Electric Co., Madras.
4. M/s. T.I. Cycles, Madras.
5. M/s. Royala Corporation, Madras.
6. M/s. Integral Coach Factory Perambur, Madras.
7. M/s. Lucas T.V.S., Madras.
8. M/s. Hindusthan Tele Printers, Madras.
9. M/s. Tata Iron & Steel Co., Jameshedpur.
10. M/s. Heavy Engineering Corporation Ltd., Ranchi.
11. M/s. Hindusthan Steel Ltd., Ranchi.
12. M/s. Hindusthan Machine Tools Ltd., Bangalore.
13. M/s. Bharat Electronics Ltd., Bangalore.
14. M/s. Indian Telephone Industries Ltd., Bangalore.
15. M/s. Hindusthan Aeronautics Ltd., Bangalore, & Kanpur
16. M/s. Tata Engineering Locomotive Works, Jamshedpur.
17. M/s. Chittaranjan Locomotive Works, Calcutta.
18. M/s. Diesel Locomotive Works, Varanasi.
19. M/s. Remco Ltd., Bangalore.
20. M/s. Mysore Iron & Steel Works, Bhadravati, Mysore.
21. M/s. Escorts Ltd., Faridabad.
22. M/s. Premier Automobiles, Bombay.
23. M/s. Heavy Electricals India Ltd., Bhopal.
24. M/s. Bharat Heavy Electricals Ltd., Hardwar, Tiruchirapally & Hyderabad.

25. M/s. Indian Drugs and Pharmaceuticals Ltd., Rishikesh.
26. M/s. Bajaj Electricals Ltd., Poona.
27. M/s. Hindusthan Motors Ltd., Calcutta.
28. M/s. Ideal Jawa Ltd., Mysore.
29. M/s. India Pistons Ltd., Madras.
30. M/s. Mahindra & Mahindra Ltd., Bombay.
31. M/s. Automobiles Products of India, Bombay.
32. M/s. Standard Motor Products of India Ltd., Madras.
33. M/s. Bharat Earth Movers Ltd., Bangalore.
34. M/s. Philips India Ltd., Bombay.
35. M/s. General Electric Co., Calcutta.
36. M/s. Tractors and Farms Equipment, Madras.
37. M/s. Jay Engineering Works, Calcutta.
38. M/s. Crompton Engineering Co., Madras.
39. M/s. Hindusthan Steel Ltd., Bhilai, Rourkela & Bokaro.
40. M/s. International Business Machines World Trade Corporation, Bombay.
41. M/s. Heavy Vehicles Factory, Avadi.
42. M/s. Gun Carriage Factory, Jabalpur.
43. M/s. Praga Tools Corporation (P) Ltd., Hyderabad.
44. M/s. Kirloskar Engineering Works, Harihar.
45. M/s. Electronic Corporation of India, Hyderabad.
46. M/s. Madras Refineries, Madras.
47. M/s. Neyveli Lignite Corporation, Neyveli.
48. Bhaba Atomic Energy Research Centre, Bombay.
49. M/s. Jyoti Ltd., Baroda.
50. M/s. National Ecko Radio & Engineering Co., Bombay.

## XVI NATIONALISED BANKS

| | |
|---|---|
| 1. *State Bank of India | P.B. No. 12, Bombay-1. |
| 2. Allahabad Bank | 14, India Exchange, Calcutta-1. |
| 3. Bank of Baroda | Mandvi, Baroda |
| 4. Bank of Maharashtra | 1177, Budhawar Pet, Poona-2. |
| 5. Bank of India | 70/81, M.G. Road, Bombay-1. |
| 6. Canara Bank | 112, Jayachamarajendra Wadiar Road, Bangalore. |
| 7. Central Bank of India | Central Bank Building, M.G. Road, Bombay-1. |
| 8. Dena Bank | Devkaran Nanji Building, 17, Horniman Circle, Bombay-1. |
| 9. Indian Bank | Indian Chamber Building, Madras-1. |
| 10. Indian Overseas Bank | 161, Mount Road, Madras-2. |
| 11. Punjab National Bank | Parliament Street, New Delhi-1. |
| 12. Syndicate Bank | Manipal, Mysore. |
| 13. Union Bank of India | 66/80, Apollo Street, Bombay-1. |
| 14. United Bank of India | 4, Narendra Chander Dutta Sarani, Clive Ghat Street, Calcutta-1 |
| 15. United Commercial Bank | Brabourn Road, Calcutta-1. |

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* The State Bank of India has the biggest net-work of branches among the banks mentioned above and has a number of subsidiary banks in different States of India.

# 2

## 2. SCOPE FOR SMALL ENTERPRISES

I Items Having Scope for Development in the Small Scale Sector
II Items Having Scope for Production in the Small Scale Sector Based on Local Raw Materials
III Items Reserved Exclusively for Production in the Small Scale Sector
IV Items Reserved for Purchases from the Small Scale Sector
V Items Required by Large Scale Establishments on Ancillary Basis of Production Relating to 16 Industry Groups
VI Items Purchased by Defence Establishments
VII Items which Substitute Imports
VIII Priority Items
IX Key Industries
X Core Industries
XI Industry Accorded Priority from Capital Goods Angle
XII Processes Available for Exploitation with the Council of Scientific and Industrial Research Organisation in India for Small Industry Sector

## I ITEMS HAVING SCOPE FOR DEVELOPMENT IN THE SMALL SCALE SECTOR

**Consumer Industries**

1. Baby Foods based on Milk
2. Milk Products
3. Skimmed Milk Powder
4. Malted Milk Food
5. Weaning Food for Babies
6. Protein foods
7. Dehydrated Vegetables
8. Canned Foods (including Fruit, Meat and Fish)
9. Bread and Biscuits
10. Non-alcoholic Beverages
11. Glucose and Dextrose
12. Maize Products
13. Synthetic Paints, Varnishes and Enamels
14. Soaps and Detergents
15. Cameras
16. Electric Lamps (GLS Filament, Miniature and Fluorescent Lamps, Photoflash Lamps, Lighthouse and Airport Lighting Equipment)
17. Cigarettes and Cigars
18. Torch Cells
19. Footwear
20. Razor Blades
21. Bicycles
22. Mopeds, Auto-Cycles and Scooters
23. Photoflash Batteries
24. Cutlery of Good Quality
25. Watches

**Engineering Industries**

1. Automatic Filling, Bagging/Weighing and Stitching Machine
2. Air Conditioning & Refrigeration Industries: (i) Centrifugal Packaged Chiller for Air Conditioning of multi-storey buildings etc; (ii) Accelerated Freeze Drying Plant; (iii) Air Conditioning Refrigeration Equipments for Transport (Trains, Buses, Trucks, Cars); (iv) Plate Freezers (Plate Assembly only); (v) Sealed and Semi-Sealed Air Conditioning Refrigeration Compressors above 7.5 tons.
3. Off-shore Drilling Equipment
4. Automatic Weighing and Packing Machines
5. Tabletting Machineries of Sophisticated Types
6. CRGO (Cold Rolled Grain Oriented Steel)
7. High Voltage ERC Fuses
8. Wave Traps with Aluminium Conductors
9. High Frequency Radio Frequency Cables
10. Machine Tools: (i) Glass Making Machinery; (ii) High Frequency Induction Heating Equipment; (iii) Hydraulic Control Equipment for Machine Tools; Plastics, Tractors etc.; (iv) Thread Grinding Machines; (v) Die Sinking Machines (vi) Numerical Control and Figited Control Equipment.
11. Plastic Working Machinery
12. Precision Measuring Tools
13. Cutting Tools

14. Tractors
15. Power Tillers: (i) Crankshafts; (ii) Transmission and Rear Axle Assembly; (iii) Chassis Members for Motor Vehicles; (iv) Hydraulics; (v) Castings
16. Agricultural Implements/ Machinery
17. Bread and Biscuit Making Plants
18. Ceramic Machinery
19. Combined Harvestor (Tractor mounted & PTO Driven/Self-propelled)
20. Chipboard and Fibre Board Plants
21. Electronic Measuring and Testing Instruments
22. Electrical Instruments and other Electrical Testing Instruments (Key Industry)
23. Open Type Ammonia & Freon Compressors of reciprocating Type Capacities from 1/4 ton to less than 5 tons
24. Industrial Testing and Measuring Instruments
25. Lightning Arresters
26. X-Ray & Electro-medical Equipment
27. Medical/Surgical Instruments and Appliances
28. Pulp and Paper Machinery (including Paper Conversion Machinery)
29. Rotovators
30. Rubber Machinery
31. Scientific Instruments
32. Tractor operated Fodder Mill Food Grinders
33. Tractor, Winnower, Mower, Reapers and Binders for harvesting Wheat, Paddy, Maize etc.

**Chemical Industries**

1. Nitrogenous Fertilizers (N)
2. Pesticides: (i) Carbaryl; (ii) Phorate; (iii) Captan; (iv) Rodenticides e.g. Cyanide dusts; (v) Weedicides; (vi) Nematocides
3. Phosphatic Fertilizers (other than Super Phosphates)
4. Nylon Yarn
5. P.V.C. Stabilisers
6. Phthalic Anhydride
7. Asbestos Paper and Special Jointing Material : (i) Asbestos Paper; (ii) Special Jointing Material
8. Graphite Crucibles and Silicon Carbide Crucibles
9. Styrene
10. Synthetic Cryolite and Aluminium Fluoride
11. Bromine
12. Vinyl Chloride Monomer
13. Industrial Gases
14. Midget Electrodes

**Essential Drugs & Pharmaceuticals**

1. Newer Antibiotics (Neomycin, Erythromycin, Nystatin, Polymyxin, Hamycin, Kanamycin, Griseofulvin and Bacitracin)
2. P.A.S. Salts & Esters
3. I.N.H.
4. Dehydro Emetine (from basic stage)
5. Oral Antidiabetics like Chlorpropamide, Phenformin, Tolbutamide
6. Electrolytic Manganese Dioxide
7. Synthetic Anti Malarials like Chloroquin, Amodiaquin, Pyrimethamine etc.
8. Xylocaine
9. Phenyl Butazene & other Anti-Rheumatics
10. Barbiturates like Phenobarbitone, Amylo Barbitone & Pento Barbitone
11. Pituitory (Posterior Lobe Extract)
12. Atrophine
13. Caffeine
14. Erget Alkaloids
15. Vitamin B-1
16. Vitamin B-2
17. Vitamin B-6
18. Folic Acid
19. Vitamin I.E.
20. Antihistamines like Chlorphenireamine Maleate
21. Tranquilisers like Chlorpromaizine, Meprobamate etc.
22. Cycloserine Ethionamide, Pyrazinamide
23. Aminophyline, Theophyline
24. Surgical Sutures.

**Other Industries**

1. Cement
2. Pulp, Paper and Newsprint
3. Photographic Paper
4. Automobile and Tractor Tyres and Tubes
5. Refractories
6. Carbon Brushes
7. Storage Batteries
8. Industrial Sewing Machines
9. Industrial Explosives
10. Glass Bottles and Vials
11. High Tensile Bolts and Nuts
12. Expanded Metal
13. Fishing Hooks and Tackles
14. Grinding Wheels and Segments
15. Grinding Media
16. Pilfer Proof Caps, Metal Closures, Screw Caps and the Like
17. Welding Electrodes and Arc Welding Rods
18. Calculating Machines
19. Power operated Office Machines
20. Cash Registers both Manual & Power-operated;
21. Electric Typewriters
22. Furnace Lining Bricks
23. Mica Products
24. Certain types of Oil Seals
25. X-Ray Films
26. Cotton Seed Oil (in terms of Cottonseed)

## II ITEMS HAVING SCOPE FOR PRODUCTION IN THE SMALL SCALE SECTOR BASED ON LOCAL RAW MATERIALS

This compendium of items are compiled from the candidate industries suggested in the various Survey Reports conducted so far and which highlight the utilisation of resources and skills locally available.

### I. Agro-based Industries

1. Absorbent Cotton
2. Agarbatti
3. Alcohol from Molasses
4. Amyl Cinnamic Aldehyde from Castor Oil
5. Arrowroot
6. Bakers' Yeast
7. Brushes (Fibre and Bristles)
8. Carbodehydrate and Proteins—Extracts from Groundnut-cake
9. Cashew Apple Juice
10. Cashewnut Curing
11. Cashew Shell Oil
12. Cattle and Poultry Feed ✓
13. Cigars and Cheroots
14. Coconut Shell Powder
15. Coir Brushes
16. Condiments & Spice Powders
17. Cottonseed Oil ✓
18. Crystallised Ginger, Dehydrated Fruits and Vegetables ✓
19. Dehydrated Castor Oil
20. Dehydrated Ginger
21. Desiccated Coconut
22. Dried Molasses—Cattle Feed
23. Essential Oils
24 Fibre from Banana Stalks
25. Fruit Juices
26. Fruit Powders
27. Fruit Preservation and Canning
28. Furfural
29. Ginger Oil
30. Glucose from Tapioca
31. Khandsari Sugar
32. Linseed Oil (double boiled)
33. Medicated Castor Oil
34. Nicotine Sulphate
35. Oleoresin from Chillies
36. Orange Oil
37. Oxalic Acid from Pineapple Waste
38. Pectin and Papain
39. Photo Chemicals
40. Pickles and Chutneys
41. Preservation of Whole Fruits
42. Processed Food
43. Ragi Malt
44. Refined Oils
45. Refined Sunflower Oil
46. Resin Bonded Boards from Jute Sticks
47. Rice Bran Oil
48. Roasted Cashew (Canned)
49. Ropes and Twines
50. Rosa Grass Oil (Geranoil)
51. Shellac
52. Sisal Fibre Ropes & Sisal Wax
53. Solvent Extraction Plants—Cottonseed and Linseed
54. Starch from Banana Stems
55. Starch from Maize
56. Starch from Tamarind Seed
57. Straw Board
58. Surface Coatings from Castor Oil
59. Tobacco Seed Oil
60. Turmeric Powder

### II. Forest-based Industries

61. Bamboo Board
62. Briquettes
63. Beedis
64. Boat Making
65. Briquetting of Saw Dust
66. Calamus Oil
67. Cane Umbrella Handles
68. Cedarwood Oil
69. Cane and Bamboo Products
70. Catechu (Katha)
71. Country Crafts and Mechanised Fishing Boats
72. Chip Board and Particle Board
73. Drawing Boards and Stationery Items
74. Eucalyptus oil
75. Gum
76. Gum Resins
77. Lac based Industries
78. Macaroni
79. Mango Cereal Flakes
80. Packing Cases
81. Paper Pulp
82. Pencils
83. Photo Frames
84. Plywood
85. Radio Cabinets
86. Rosin and Turpentine
87. Sago from Tapioca

88. Saw Milling
89. Sports Goods
90. Splints and Veneers
91. Straw Matting for Packing
92. Tanning Material out of Different Barks
93. Timber Seasoning
94. Tooth Picks
95. Veneer Slicing
96. Wooden Joinery Products
97. Wooden Bobbins and Other Handloom Accessories
98. Wooden Toys
99. Wooden Battery Separators
100. Wooden Blackboards
101. Wooden Packing Cases
102. Wooden Electrical Accessories
103. Wooden Furniture
104. Wooden Stationery Articles
105. Wood Wool

## III. Livestock-based Industries

1. Ammunition Boots
2. Bag Tanned Sole Leather
3. Belting Leather
4. Bone Crushing
5. Bone Meal
6. Brush Making
7. Chamois Leather
8. Chrome Retanned Leather
9. Chrome Upper Leather
10. Citrus Oil
11. Cycle Leather Saddle Tops
12. Dairy and Milk Products
13. Glace Kid
14. Glue from Tannery Waste
15. Glue from Animal Fleshings
16. Guts
17. Hold-Alls and Travelling Kits
18. Industrial Leather
19. Kattai Leather
20. Leather Footwear
21. Leather for Sports Goods
22. Leather Gloves
23. Leather Goods including Sports Goods
24. Leather Tanning
25. Nu Buck Leather
26. Semi-Alum Upholstery Leather
27. Sports Footwear
28. Suede Leather
29. Textile Leather (for Manufacturing Pickers, Picking Bands, etc.)
30. Upholstery Leather
31. Washers and Dust Shield Leather

## IV. Mineral-based Industries

1. Barium Salts
2. Benefication of China Clay
3. Bleaching Powder
4. Bricks
5. Cement Asbestos
6. Cement Colours
7. Coal Briquettes
8. Crockery
9. China Clay Washery
10. Distempers
11. Decorated Mirrors and Glass Wares
12. Dolomite Refractories
13. Dry Ground Mica
14. Electrical Porcelain Industries
15. Fire Bricks and other Refractories
16. Glass Bricks
17. Glass Bottles, Jars, etc.
18. Glass Wool
19. Glazed Files
20. Graphite Benefication
21. Graphite Crucibles
22. Grinding of Various Minerals
23. Gypsum Plaster Boards
24. High Alumina Refractory
25. Lime Burning
26. Low Tension Insulators
27. Marble Cutting, Chips Making and Polishing
28. Mica Bricks
29. Mica Powder
30. Mosaic Cement Tiles
31. Precipitated Chalk, Calcium Chloride and Activated Calcium Carbonate
32. Pulverising of Ceramic Raw Materials
33. Pressed Glassware
34. Pressed Porcelain
35. R.C.C. Pipes
36. Saltpetre
37. Sanitaryware
38. Silica Bricks
39. Slates and Pencils
40. Soap Stone Bricks
41. Soap Stone Powder
42. Sodium Silicate
43. Stone Chips
44. Stone Polishing
45. Stoneware Pipes
46. Surkhi Making
47. Thermos Flasks
48. Tiles

V. **Marine-based Industries**

1. Canning and Freezing of Fish
2. Epsum Salt
3. Fish Curing
4. Fish Meal and Fish Manure
5. Fish Oil
6. Freezing of Prawns
7. Salts
8. Potassium Chloride
9. Shark Liver Oil

VI. **Other Industries**

1. Anodising of Aluminium Goods
2. Artist's Colours
3. Book Binding
4. Caffeine
5. Calcium Carbide
6. Calcium Hydrosilicate
7. Card Board Boxes
8. Cotton Tapes
9. Disinfectant
10. Fish-net Making
11. Hosiery Items
12. Insulating Adhesive Tapes
13. Jute Twine and Rope Making
14. Magnesium Sulphate
15. Manure Mixing
16. Nicotine Sulphate
17. Paints and Varnishes
18. Pesticide Formulations
19. Phenyl
20. Pharmaceuticals
21. Plaster of Paris
22. Pottassium Chloride
23. Pulp from Jute Sticks
24. Ready-made Garments
25. Safety Matches
26. Scented Arecanut Powder
27. Spectacle Lens Grinding

## III ITEMS RESERVED EXCLUSIVELY FOR PRODUCTION IN THE SMALL SCALE SECTOR

1. Absorbent Cotton
2. Automobile Radiators (except for expansion on merits)
3. Barbed Wire
4. Beam Scales
5. Bichromates (except for exports)
6. Bolts and Nuts (except High Tensile and other Special Type)
7. Conduit Pipes—Metallic
8. Domestic Electrical Appliances and Accessories such as Electric Iron, Roasters, Heaters, Washing Machines etc., Other than Vacuum Cleaners, Industrial Washing and Dry-cleaning Machines etc.
9. Dyes—(*i*) Azo Dyes (Directs and Acids) and
   (*ii*) Basic Dyes
10. (a) Electrical Wiring Accessories
    (b) Electrical Light Fittings (such as Chokes, Starters, Reflectors etc.)
11. Expanded Metal
12. Fireworks
13. Formulated Perfumery Compounds
14. Full P.V.C. Footwear (Chappals, Sandals and Shoes), except for Export by Predominantly Export-oriented Units
15. Glass Holloware by Semi-automatic Process
16. Gun Metal Bushes
17. Hand Numbering Machines
18. Hand Stapling Machines
19. Hurricane Lanterns
20. Hypodermic Needles
21. Insecticide Dusters and Sprayers (Manual)
22. Laundry Soap
23. Leather Footwear (except for Expansion of the Existing Units for Exports and New Units for Exports)
24. Machine Screws (except for Socket Head and Special Types)
25. Machine Shop Vices
26. Metal Clad Switches upto 30 Amps
27. Miniature Bulbs
    (*a*) Miniature Vacuum Bulbs
    (*b*) Torch Bulbs
    (*c*) Radio Panel Bulbs
    (*d*) Cycle Dynamo Bulbs
    (*e*) Decoration Bulbs
28. Paints and Varnishes—Dry Distempers, Red Lead, Red Oxide, Aluminium Paints, Bitumen Paints to IS Specifications, Wagon Blocks, Graphite Paints, all Paste Paints
29. Palm Rosa Oil
30. Paper Conversion Products
31. Pine Oil (except for Composite Schemes)
32. Plaster Boards
33. Plastic Processed Products
    (*i*) Bottle Caps, Buttons, Lamp-shades etc., produced by the Compression Moulding Technique

- (*ii*) Plastic Articles manufactured from Plastic Sheets, Rods or Tubes by the Fabrication technique excluding the Technique of Vacuum forming
- (*iii*) Polythelene Films (Films with a thickness of less than 0.10 mm) and Products from the Film such as Coloured Printed Film and Bags)
- (*iv*) Blow Moulded Containers and Other Similar Products manufactured by the Blow Moulding Technique (except for Captive Use, P.V.C. Containers and Change Over by Existing Units Manufacturing Metal Containers to Plastic Containers)
- (*v*) Spectacle Frames from Sheets by Fabrication Technique or by Injection Moulding
- (*vi*) Manufacture of Polyester Sheets for Buttons and the Processing of the Sheets so produced to Manufacture Buttons

34. Rivets of all Types (including Bifurcated)
35. Rolling Shutters
36. Roofing, Flooring and Glazed Tiles (except Plastic and Ceramic Tiles of sizes 4″×4″ and above)
37. Safety Matches
38. Steel Wool
39. Student's Microscopes
40. Surgical Gloves (except Plastic)
41. Telescopic Aerials (for Radio Receivers)
42. Thermometers (upto 150° C)
43. Water Meters
44. Welded Wire Mesh (except for expansion of Existing Units)
45. Wire Brushes and Fibre Brushes
46. Wire Products—all Wire Products such as Wire Nails, Hob Nails, Panel Pins, Horse Shoe Nails
47. Wood Screws
48. Steel Furniture
49. Cycle and Tubes
50. Mechanical Toys
51. Aluminium Utensils
52. Fountain Pens and Ball Point Pens
53. Electric Horns
54. Hydraulic Jacks below 30 Tonnes Capacity
55. Tooth Paste
56. Tent Poles
57. Graphite Crucibles upto No. 200
58. Community Receivers
59. Hand Presses
60. Wooden Shelves
61. Silk Ribbons
62. Lint Plain
63. Latex Foam Sponge
64. G.I. Bath Tubs
65. Paint Remover
66. Hand Lamps
67. Ovens Electric (Domestic Types)
68. Street Light Fittings
69. Wire adjusting Screws
70. Cones and Valves (for water fittings only)
71. Film Spools and Cans
72. Film Polythene
73. Benzol Benzoate
74. Matches Safety (except for Defence)
75. Shelves Steel

## IV ITEMS RESERVED FOR PURCHASES FROM THE SMALL SCALE SECTOR

1. Animal Driven Vehicles (Civil Requirements only)
2. Anklets Web Khaki
3. Ammunition Boxes Wooden
4. Attache Cases
5. Badges, Cloth Embroidered and Metalic
6. Bags Ice Head (Civil Requirements only)
7. Balloons Rubber
8. Bandage Cloth
9. Barbed Wire (Excepting Cancertina barbed wire square hexagonal head)
10. Basket Cane
11. Belt Leather
12. Belt Leather and Strips
13. Bench Vices (Ordinary)
14. Blacksmith Hearth
15. Bone Meal
16. Boots and Shoes of all types (Civil requirements only)
17. Boot polish
18. Boxes made of Metal (Civil requiremants only)
19. Boxing Boots
20. Brass Dampers
21. Brief Cases

22. Brooms
23. Brushes
24. Buckets
25. Button Metal
26. Buckets G.I.
27. Cans (made of G.I. Sheets for milk and measuring)
28. Cash Bags
29. Caps Cotton
30. Caps Woollen
31. Caps Waterproof
32. Casing and Capping
33. Ceiling Roses upto 15 Amps
34. Centrifugal Steel Plate Blowers
35. Chains Lashing
36. Chappals and Sandals
37. Coir Mattress and Matting
38. Coir Fibre and Coir Yarn
39. Conduit Pipes (Metallic)
40. Copper Sulphate
41. Cotton Cord Twine (other than Defence)
42. Cotton Hosiery (Civil requirements only)
43. Cotton Wool (non-absorbent)
44. Crates Wooden
45. Cumblies
46. Curtains Mosquito (Civil requirements only)
47. Distribution Boards upto 15 Amps
48. Dusters Cotton all types (except the items required in khadi)
49. Dust Bins (Civil requirements only)
50. Dust Shield Leather
51. Electric Call Bell
52. Electric Buzzers
53. Electric Soldering Irons
54. Expanded Metal
55. Eyelets
56. Football Boots
57. French Polish
58. Garments (Civil requirements only)
59. Gas Mantles
60. Gauze Cloth
61. Gauze Surgical all types (Civil requirements only)
62. Ghamellas (Civil requirements only)
63. Glass Ampoules
64. Gun Cases
65. Gun Metal Bushes
66. Hand-drawn Carts of all types (Civil requirements only)
67. Hand Numbering Machines
68. Handles Wooden and Bamboo
69. Hair Passam Wool
70. Hand Gloves
71. Hide and Country Leather of all types (for Civil requirements only)
72. Hob Nails
73. Holdalls
74. Horse and Mule Shoes
75. Insecticides Dusters and Sprayers (Manual only)
76. Invalid Wheeled Chairs
77. Keys Wooden
78. Kit Bags
79. Kudali
80. Kullahs
81. Laces Leather
82. Lanterns Posts and Bodies
83. Lathies
84. Lamps Signal
85. Lamp-holders
86. Leather Bags
87. Leather Boxes (not army types)
88. Leather Harness
89. Metal Clad Switches
90. Mail bags (Canvas & Dossouti)
91. Manhole Covers
92. Metal Polish
93. Metric Weights
94. Miniature Bulbs (for torches only)
95. Nail Cutters
96. Nail Tip Heel rustless
97. Niwar (other than Defence)
98. Padlocks Brass
99. Padlocks G.I.
100. Paper Conversion Products
101. Patient Coats and Pyjama
102. Pile Fabric
103. Pillow (Cotton)
104. Plaster of Paris
105. Plugs
106. Plugs Wooden
107. Postal Lead Seals
108. Postal Weighing Scales
109. Pouches
110. Quilts, (Cotton)
111. Rags Cotton (Civil requirements only)
112. Railway Platform Drinking Water Trolleys (Civil requirements only)
113. Razors
114. Scissors Cutting (Ordinary Scissors)
115. Shellac
116. Shoe Laces
117. Sign Boards Painted
118. Skin Sheep all types (Civil requirements only)
119. Skiboots and Shoes

120. Sole Leather (Civil requirements only)
121. Soap Washing or Laundry Soap (Civil requirements only)
122. Sockets
123. Spiked Boots
124. Steel Desks
125. Steel Racks
126. Steel Stools
127. Steel Trunks (Civil requirements only)
128. Stockinettee (Civil requirements only)
129. Stone Curry and Stone Curry Roller
130. Suitcases
131. Tacks (Metallic)
132. Tape Cotton (Civil requirements only)
133. Tarpaulins (Civil requirements only)
134. Teak Fabricated Round Blocks
135. Tentage Jute
136. Tip Boots
137. Tin Trays
138. Umbrellas
139. Utensils Cooking (except stainless steel utensils and vessel pressure cookers)—Civil requirements only
140. Washers leather
141. Wheel Barrows
142. Wicks Cotton (Civil requirements only)
143. Wire Nails and Horse Shoe Nails
144. Wooden Packing Cases of all sizes (Civil requirements only)
145. Wood Wool
146. Woollen Hosiery (Civil requirements only)
147. Tent Poles
148. Graphite Crucibles upto No. 200
149. Community Receivers
150. Hand Presses
151. Wooden Shelves
152. Silk Ribbons
153. Lint Plain
154. Latex Sponge Rubber
155. G.I. Bath-tubs
156. Paint Removers
157. Hand Lamps
158. Ovens Electric (Domestic type)
159. Street Light Fittings
160. Wire adjusting Screws
161. Cones and Valves (for water fittings only)
162. Film Spools and Cans
163. Film Polythene
164. Benzol Benzoate
165. Safety Matches
166. Steel Shelves

## V ITEMS REQUIRED BY LARGE SCALE ESTABLISHMENTS ON ANCILLARY BASIS OF PRODUCTION RELATING TO 16 INDUSTRY GROUPS

### 1. Industrial Machinery

There are 122 items coming under this group. Some of the items are: Air Valves, Axle Boxes, Brackets, Brake Wheels, Bearings, Connecting Rod, Crude Oil Tanks, Crank Shafts, Conveyor Rollers, Exhaust Brackets, Fly Wheels, Fulcrum Pins, Flanges, Gear Wheels, Helical Gears, Hard Rubber Bushes, Lever Brackets, Oil Seals, Piston Rings, Surface Plates, Taper Pins, Vee Blocks and Worm Shafts.

### 2. Agricultural and Earth Moving Machinery

There are 89 items coming under this group. Some of the items are: Battery Terminals, Back Scrappers and Band Formers, Bushings of various sizes, Brake Hoses for Earth Moving Machinery, Chaff Cutters, Clutch Levers, Dowel Pins, Forks, Grease Nipples, Harrows, Iron Ploughs, Pressure Plates, Rims, Rubber Pad Holders, Seed Drills, Stone Rollers, etc.

### 3. Machine Tools

There are 120 items coming under this group. Some of the items are: Adapters, Belt Fasteners, Brass Elbows, Brake Wheels, Bolts, Collets, Connecting Links, Coolant Reservoir, Dust Removers, Face Plates, Helical Gears, Idler Pulley Lead, Lathe Centres, Locking Lever, Leather Washers, Magnetic Chucks, Piston Rings, Reduction Sleeves, Surface Gauges, Vee Blocks, Work Gears, etc.

### 4. Industrial, Scientific and Mathematical Instruments (Mechanical)

There are 27 items coming under this group. Some of them are: Hollow Prisms with Slides, Concave and Convex Mirrors, Prisms, Stirrers, Burners, Condenser Lenses, Resistance Boxes, etc.

### 5. Locomotives and Rolling Stocks, Ship and Aircrafts

There are 54 items coming under this group.

Some of them are: Axle Boxes, Blower Steam Cock, C.F. Sleepers, Chain Links, Loco Grease Guns, Rod Pull Brakes, Round Spikes, Safety Catches, Vacuum Reservoirs, Anchors, Heaters, Hot Press, Standard Binds, Filters, Level Alarms, Rubber Mattings, etc.

**6. Bicycles**

There are 58 items coming under this group. Some of them are: Bicycle Chains, Bicycle Tube Valves, Bells, Carriers, Stands, Crank Wheels, Forged Cranks, Lock Nuts and Rings, Pedal Assembly, Tyres, Tubes, Wheel Hubs, etc.

**7. Boilers and Steam Generating Plants**

There are 29 items coming under this group. Some of them are: Auto Strokers, Full way Gate Valves, Horizontal Check Valves, Sight Feed Lubricators, Steam Pipe Line Fittings, Strainers Steam Traps, etc.

**8. Steam Engines, Turbines and Internal Combustion Engines**

There are 34 items coming under this group. Some of them are: Brackets, Coil Springs, Cams, Fuel Pump Elements, Fuel Tank Caps, Hand Oil Pumps, Oil Filters, Radiators, Steam Regulating Quick Closing Valves, U-studs, etc.

**9. Automobiles**

There are 219 items coming under this group. Some of them are: Axles, Brakes & Brake Assembly, Carburettors, Clutch Group Items, Electrical items, Engine Parts, Exhaust Pipes, Frames, Suspension & Steering, Hardware Items, Propeller Shafts & Transmission, Rubber & Plastic Parts and Gaskets, Sheet Metal & other miscellaneous items, Garage Tools, etc.

**10. Commercial, Office & Household Equipment**

There are 25 items coming under this group. Some of them are: Crank Handle Pin, Rubber Roller Spindle, Feed Arm Shaft, Inking Roller Spindle, Crank Handle Gear, Catch Pin, Drum Coupling, etc.

**11. Electrical Machinery, Equipment & Appliances**

There are 103 items coming under this group. Some of them are: Bearings, Barrels, Brackets, Cables, Current Collectors, Cam Shaft & Gears, Delta Star Switches, Fan Regulators, Fuse Carriers, Flanges, Ignition Switches, Lamp Shades, Lamp Holders, Oil Pressure Switches, Rotary Switches, Switchgears, etc.

**12. Telecommunication Equipment**

There are 79 items coming under this group. Some of them are: Bracket Mountings, Chokes, Electrolytic Condensers, Insulating Washers, Moving Coils, Microphones, Plastic Spools, Toggle Switches, Terminal Blocks, Time Lag Pistons, Variable Resistors, etc.

**13. Industrial Instruments (Electrical)**

Various parts and components of instruments.

**14. Radio and Electronics Equipment**

There are 95 items coming under this group. Some of them are: Aerials for Radios, Battery Eliminators, Ceramic Condensers, Carbon Resistors, Electrolytic Condensers, Loudspeakers, Mica Condensers, Oscillator Coils, Potentiometers, Radio Frequency Chokes, Vibrators, Volume Controls, Wire Wound Resistors, etc.

**15. Airconditions and Cold Storage Equipment including Refrigerators**

There are 12 items coming under this group. Some of them are: Air Filters, Brass Fittings such as Tees, Elbows, Cooling Towers, Dehydration unit, Expansion Valves, Nozzles for Cooling Towers, Relays, etc.

**16. Mineral Oil and Petroleum Industries**

Manufacture of the equipments for the marketing of refined petroleum products.

The Ancillary Directorate of the Small Scale Industries Development Organization has prepared a compendium wherein the individual items under each group are listed.

## VI ITEMS PURCHASED BY DEFENCE ESTABLISHMENTS

1. Acid Hydrochloride
2. A.C. Coolers
3. Air Crew Locks
4. Ammunition Boxes
5. Anklets Battle Web
6. Anvils
7. Aprons Canvas
8. Aprons Leather
9. Armlets
10. Attache Cases
11. Axes Pick, Axes Hand, Axes Felling
12. Axle Boxes Dust

13. Badges
14. Badges & Formation Signs
15. Bags
16. Bags Kit
17. Bags Waterproof
18. Balls Rubber
19. Bandage Cloth
20. Barbed Wire
21. Bars Parallel
22. Basil Brown
23. Baskets Ration
24. Battery Carriers
25. Beacon Bandreel Set
26. Belts Fireman
27. Bees Wax
28. Belting Leather
29. Belts Waist
30. Benches
31. Benders
32. Bentick Planks
33. Benzion Composite
34. Berets Woollen
35. Boots
36. Boot Polish
37. Bins (Steel Portable)
38. Blanco Waterproof
39. Blankets Barrack (Woollen)
40. Blocks Vee
41. Blow Lamps
42. Bolts, Nuts & Rivets
43. Blankets
44. Boots Ankle
45. Boxes Tool
46. Boxes Mobile
47. Boxes Tool
48. Braces Cotton
49. Bricks (Fire)
50. Bristles
51. Brooms
52. Brushes
53. Buckets
54. Buckles
55. Buckram Canvas
56. Buffers Plunger
57. Bush Shirts Cotton
58. Buttons & Stitch Buttons
59. Cabinets
60. Cables
61. Camouflage Nets
62. Candles
63. Canes, Brass Solid
64. Canvas Flasks
65. Canvas Union Cotton
66. Caps
67. Caps Balaclava
68. Caps Comforters
69. Caps Waterproof
70. Caps (Worsted Khaki)
71. Carpenters' Square Smith
72. Carrier Ammunitions
73. Carrier Cartridge
74. Carrier Set
75. Cases Binoculars
76. Cases Packing
77. Cases Tool
78. Cases Tape Tracing
79. Cash Bags Leather
80. Casing
81. Cement Fixing
82. Centimide Cream
83. Centrifugal Pumps
84. Chaff Cutters Machines
85. Chagul Universal
86. Chains
87. Chairs Invalid
88. Chappals
89. Chests Tools
90. Chests Trousers
91. Chevrons
92. Chisels
93. Choppers Meat
94. Clamps
95. Clippers Hair
96. Clippers Mule
97. Clips
98. Cloth Cotton Rubberised
99. Cloth Drab Mixture
100. Cloth Flannel
101. Cloth Mutton
102. Cloth Sponge
103. Coats Waterproof
104. Coir Covers
105. Coir Matting
106. Coir Rope
107. Compasses Drawing
108. Composition Rust
109. Containers
110. Copper Napthanate Packing Graphite Asbestos
111. Cordage Cotton
112. Cordage Manila
113. Cordage Nylon
114. Cordage Sisal
115. Cord Braking
116. Cord Disc

117. Cord Pull Through
118. Cotton Thread
119. Cotton Waste
120. Covers Canvas & W.P.
121. Covers Gun
122. Covers Water Bottle
123. Cranes
124. Cramps
125. Crates
126. Curtains
127. Cushions
128. Cutter Pipes
129. Dress Double Barred
130. Dhoti Cotton
131. Discs
132. Distance Piece
133. Door Poles
134. Door Springs
135. Drawers
136. Drugs
137. Drum Cable
138. Dunder
139. Durries
140. Ear Defenders
141. Enamel
142. Ether
143. Eyelets
144. Fabricated Conductors
145. Fabric Linen
146. Fabric Rubberised
147. Fabric W.P.
148. Fasteners Snap
149. Felts
150. Files Splicing
151. Filth Carts
152. Fire Extinguishers
153. Flexible Duck Board
154. Forges Cutters
155. Forceps Artery
156. Frogs Brown
157. Frying Pans
158. Fuller Bottom Smith
159. Funnels Fuel
160. Furnaces
161. Fuse Covers
162. Fuse Holes
163. Garments
164. Gauges
165. Guard Caps
166. G.I. Bends
167. G.I. Pipes
168. Glue
169. Glass Beads
170. Gloves
171. Gloves Boxing
172. Graphite Crucibles
173. Grinders
174. Grindstones
175. Ground Sheets
176. Hackles
177. Half Soles
178. Hammers
179. Hand Drawn Conductors
180. Handles
181. Handles Wooden
182. Hand Spikes
183. Hasps and Staples
184. Havers Sacks
185. Hats
186. Heating Stoves & Oil Stoves
187. Helmets Steel
188. Helves for Shovels & Pick Axes
189. Hemplines
190. Hides
191. Hinges Butt
192. Holdalls
193. Holders Screw Rings
194. Holders Timber
195. Hooks & Eyes (Brass)
196. Horse Shoes
197. Hose Stem
198. Hose Taps
199. Hose Water
200. Hosiery Woollen
201. Housewives Boxes containing Needless, Threads, Buttons etc.
202. Insecticides
203. Irons Pressing
204. Jackets
205. Jacks
206. Jerseys
207. Kettles Paint
208. Knives
209. Label Holders
210. Laces Fabric
211. Laces Leather
212. Laces Nylon
213. Lacquers
214. Lamps Incandescent
215. Lanyards
216. Lead Assembly
217. Leather
218. Leather Cow Curried
219. Leather Buffalo Tanned

220. Leather Oil Drums
221. Leather Polish
222. Leather Washers
223. Lifts Leather
224. Lighting Fittings
225. Line Cotton
226. Line Neutral
227. Line Plain
228. Lock Mortar
229. Mallets Raw Hides
230. Mango Boards
231. Mats Door Gymnasia
232. Mazri
233. Measures Conical
234. Metal Polish
235. Metal Solders
236. Methodex Card Index
237. Milk Containers
238. Millens Hedings
239. Mosquito Nets
240. Moulders
241. Mounting Rasps
242. Mugs Enamelled
243. Myrobalans
244. Nail Cutters
245. Nails (Horse Shoe)
246. Nail Tips
247. Needles Blood Transfusion
248. Naphthalene
249. Niwar
250. Nylon Leno Fabrics
251. Oil Fired Heaters
252.. Oil Mustard
253. Oil Turpentine
254. Okum Black
255. Oleum Arachis
256. Packing Graphic Asbestos
257. Packing Paper
258. Pack Personal Survival
259. Packs
260. Pad Head Dress
261. Padlocks
262. Paints
263. Pans Privy
264. Paper Sleeves
265. Paraffin
266. Paste Flux Soldering
267. Perforated Plating
268. Pile Fabrics
269. Pile Feathers
270. Pillows
271. Pins
272. Planks Wooden
273. Pliers
274. Polish Bichromate
275. Polish Floor
276. Polythene Films
277. Polythene Lay Flat
278. Potassium Nitrate
279. Potassium Iodide
280. Pouches
281. Power Transformers
282. Projectors
283. Patties
284. Racks
285. Racks Steel
286. Ranks
287. Rasps Carpenter
288. Razai
289. Razor Open
290. Receptacles
291. Ribbon Cap
292. Rigid Type Box
293. Roller Grounds Wooden
294. Ropes
295. Ropes Heel
296. Rubber Sleeves
297. Ruck Back Pads
298 Rulers Flat
299. Safes
300. Salt Cadaminous
301. Salt Phosphating
302. Scarves Woollen
303. Scissors
304. Screws Cutting
305. Screws
306. Screw Drivers
307. Screws (Wire)
308. Scribers
309. Serge Battle Dress
310. Shackles
311. Shears
312. Sheep Skin
313. Shellac Ammunition
314. Shelter Artificer's
315. Shoes
316. Shoes Canvas
317. Shoes Mule
318. Shovels
319. Singlets
320. Sisso Boards
321. Skids
322. Skin Chamois Leather
323. Springs Coil

324. Spindles
325. Soaps
326. Socks
327. Socks Cotton
328. Solder
329. Soldering Irons
330. Solution Rust
331. Spanners
332. Spittoons Fount
333. Spoons Aluminium
334. Spray Brushing
335. Squares
336. Station Labels
337. Stay Insulators
338. Steel Bedstead
339. Steel Furniture
340. Steel Sype
341. Steel Tubes
342. Stockinette
343. Stockings
344. Stone Curry
345. Stone Curry Rollers
346. Strap Chin Hats
347. Straps Leather
348. Stretcher Ambulance
349. Studs
350. Surgical Cotton
351. Sweaters
352. Syrup Solutions
353. Tablets Vitamin and Others
354. Tacks Copper Cut
355. Tallow
356. Tape Cotton
357. Tape Adhesive
358. Tape Draw Spring
359. Tape Measuring
360. Tape Niwar
361. Tape Tracing
362. Tarpaulins
363. Tat Patties
364. Teak Wood
365. Tent Bags
366. Tent Mallet
367. Tent Pins
368. Tent Pins Wooden
369. Tents
370. Tent Poles
371. Tent Poles Standing
372. Tent Stores
373. Ticken
374. Timber
375. Timber (Sisso & Teak)
376. Tins Mess
377. Tips Boot
378. Tips Fitting
379. Toil Toll Canvas
380. Tools Hand
381. Tools Screw
382. Towels
383. Tow Jute
384. Trailers
385. Tr. Hyoscymi
386. Try Squares
387. Trolleys
388. Trousers
389. Truck Ground Front Plate Shifting Front
390. Trucks Hand for Food Containers
391. Trucks Elevating
392. Trumpets
393. Trumpets 'Cavalry'
394. Tub Washing
395. Tumbler Locks
396. Twine Ammunition & Packing
397. Umbrellas
398. Under Pants
399. Urinals E.I. Male
400. Utensils Cooking
401. Vacabs Section
402. Vallises Officers
403. Vests Strings
404. Vests
405. Vests Strings Knitted
406. Vices
407. Voltmeters
408. Washers Copper
409. Washers Spring
410. Wax Paraffin
411. Wax Shellac
412. Wax Shoe Maker
413. Web
414. Weighing Machines & Scales
415. Weights & Scales
416. Whistles
417. White Thin
418. Wicks Flat
419. Wire Electric
420. Wire Meter
421. Wire Nails
422. Wood Babool Bark
423. Wood Chir Sleeper
424. Woollen Cloth Items
425. Wool Sheep
426. Wrenches
427. Zinc Chloride
428. Zinc Oxide
429. Zip Fasteners.

# VII ITEMS WHICH SUBSTITUTE IMPORTS

## A. Automobile Ancillaries

1. Air Filters
2. Axle Shafts
3. Auto Switches
4. Brake Linings
5. Brake Shoes
6. Brake Springs
7. Chains
8. Coil Springs
9. Clutch Facings
10. Clutch Plates
11. Door Handles with Locks
12. Electric Fuel Pumps
13. Electric Horns
14. Engine Valves
15. Flashers
16. Filter Elements
17. Fuel Injection parts
18. Gaskets
19. Gears & Rings
20. Grease Nipples
21. Gudgeon Pins
22. Head Bulbs
23. Horn Relays
24. Ignition Switches
25. King Pins
26. Miniature Lamps
27. Oil Filters
28. Oil Seals
29. Precision Screws & Nuts
30. Pistons
31. Piston Rings
32. Radiators
33. Rear Axle Shafts
34. Shock Absorbers
35. Sealed Beams
36. Spiders
37. Spring Bushes
38. Special Springs
39. Suspension Links
40. T-Unions
41. Tie Rod Ends
42. Universal Cross Joints
43. Vacuum Brake Fittings
44. Valve Re-sealing Units
45. Voltage Regulators
46. Vulcanising Machines
47. Wiper Units

## B. Bicycle Parts

1. Chains
2. Cranks
3. Dynamos
4. Free Wheels
5. Hubs
6. Locks
7. Pumps
8. Rims
9. Spokes & Nipples
10. Saddles
11. Valves

## C. Chemicals & Allied Products

1. Adhesive Tapes
2. Aluminium Silicate
3. Aluminium Based Bearing Alloy
4. Acrylic Sheets, Rods, Blocks & Pipes
5. Bakelite Moulded Parts
6. Barium Potassium Chlorate
7. Benzyl Alcohol
8. Carbon Brushes & Copper Powder
9. Citronellol
10. Carbon Elements for Cells
11. Ceramic Rods for Crack Carbon Resistors
12. Ceramic Insulators
13. Cinema Projector Arc Carbons
14. Contraceptives
15. Electrical Porcelains
16. Emery Powder
17. Emulsifiers
18. Ferro-Ammonia
19. Ferrous Fumerate
20. Fish Oil
21. Graphite Crucibles
22. Geraniol
23. Imitation Jewellary
24. Ionone
25. Insulation Cloth for Cables
26. Isonicotinic Acid Hydrazide
27. Laminated Sheets
28. Lens Grinding & Polishing Powders
29. Micanite Moulding
30. Manila Ropes
31. Menthol
32. Nylon Washers & Bobbins
33. Niacinamide
34. Nylon Monofilament
35. Plastic Moulded Parts

36. Plastic Canes
37. Pine Oil
38. Polythene Tubings
39. P.V.C. Cables
40. Rubber Beltings
41. Rashing Ring
42. Special Bearing Alloys
43. Surgical Guts
44. Terylene Ropes
45. Thymol
46. Thioacetazine

**D. Electronic Products**

1. Aerials (Telescopic & Wire)
2. Amplifiers
3. Audio Generators
4. Audio Oscillators
5. Co-axial Connectors
6. Coils and Transformers
7. Conductivity Bridges
8. Electrolytic Condensers
9. Electro-Therapy Units
10. Electronic Flash Guns
11. Gang Condensers
12. Hearing Aids
13. I.F. Transformers
14. Impedance Bridges
15. Insulation Testers
16. Loudspeakers
17. Megaphones
18. Multitesting Meters
19. Oscilloscopes
20. Plastic Film Condensers
21. Paper Condensers
22. PH Meters
23. Photo Electric Cells
24. Power Supply Units
25. Pyrogen Test Thermometers
26. Resistors (Carbon & Wire Wound)
27. Switches All Types
28. Tape Recorders
29. Toggle Switches
30. Transistorised Inter-Communication Sets
31. Transistor Analysers
32. Vibrator Units and Analysers
33. Volume Controls
34. V.T.V. Meters
35. Zinc Ionisation Apparatus

**E. Electrical Products**

1. Air-Break Switches
2. Armature Testers
3. Capacitors for Fans
4. Capacitors for Fluorescent Tubes
5. Capacitors for Power Factor Improvement
6. Centrifugal Switches
7. Cables for Telecommunication Equipment
8. Carbon Brushes
9. F.H.P. Motors
10. Food Mixers & Grinders
11. Fuses
12. Immersion Heaters
13. Lightning Arresters
14. Meggers
15. Metallised Porcelain Bushings for Paper Condensers
16. Miniature & Neon Bulbs
17. Oil Flow Meters
18. Oil Heaters
19. Rotary Switches
20. Room Cooler-*cum*-Heaters
21. Signalling Equipment *viz.*, Circuit Controllers, Indicators, D.C. & A.C. Relays
22. Storage Batteries
23. Synchronous Motors
24. Textile Machinery Motors
25. Thermostats
26. Timing Relays
27. Toggle Switches
28. Tong Testers
29. Transformers (Power)
30. Tubular Heating Elements
31. Universal Motors

**F. Glass Products**

1. Camera Lenses
2. Clinical & Industrial Thermometers
3. Flat Safety Glass (Toughened Glass)
4. Glazeproof Goggles
5. Glass Tapes
6. Glass Ampoules
7. Instrument Lenses
8. Mirrors
9. Neutral Glass Ampoules
10. Scientific Glass Apparatus (Table Blown)

**G. Hardware & Miscellaneous Products**

1. Air Guns
2. Ammunition Boxes
3. Bifurcated Rivets
4. Circlips
5. Cutlery Items
6. Cleaning Brushes with Metal Bristles for Gun and Cylinder Barrel Cleaning

7. Diamond Cutting Tools & Dies
8. Fountain Pen Nibs
9. Hose Clips
10. Hypodermic Needles & Syringes
11. Hydraulic Door Closers
12. Laminated Square Tubes for Bus Bars
13. Land Levellers
14. Mechanical Toys
15. Metallic Flexible Tubes
16. Oil Guns & Grease Guns
17. Optical Frames & Hinges
18. Precesion Components like Screws, Nuts, Banjo Connections Studs, Pins for Automobiles, Radios, Electrical Instruments, Meters and Typewriters
19. Shaving Razor Blades
20. Snap Buttons
21. Springs for Rectifiers
22. Sprayers & Dusters
23. Spring Washers
24. Spectacle Frames
25. Steel Balls
26. Upholstery Springs
27. Umbrella Ribs
28. Wheat Thrashing Machines
29. Welded Ship Chains & Industrial Chains
30. Wire Ropes

### H. Industrial Machinery & Parts

1. Air Compressors
2. Automatic Flexible Conduit Pipe Making Machines
3. Automatic Cycle Mudguard Plant
4. Baby Boilers
5. Band Saw Blades
6. Bag Closing Machines
7. Bar Straightening Machines
8. Bakelite & Plastic Moulding Machines
9. Bread Making Plant
10. Braiding Machines
11. Bridge Bearings
12. Cartridge Filters
13. Counting Machines
14. Compression Testing Machines
15. Conveyors
16. Cranes and Lifting Equipment
17. Dies & Blocks for Bakelite, Plastic & Steel Items
18. Discharge Valves
19. Diffusers & Condensers
20. Diesel Loco Cylinder Heads
21. Dry Cleaning Machines
22. Duplicating Machines
23. Espresso Coffee Percolators
24. Flexible Conduit Pipe Making Machines
25. Filter Press Blanket
26. Fittings for Boilers
27. Gears
28. Grease Nipples & Guns for Locos
29. Hardness Testing Machines
30. Hosiery Machines
31. Hydraulic Jacks upto 100 Tons
32. Hydraulic Pipe Bending Machines
33. Hydraulic Trolley Jacks
34. Hydraulic Presses
35. Hydraulic Testing Machines
36. Hydraulic Pumps
37. Hydro Extractors
38. Hub Threading Machines
39. Indoor Aerial Making Machines
40. Impact Testing Machines
41. Label Punching Machines
42. Lens Grinding Machines
43. Marble Processing Equipment
44. Metallic Bristle Brush Making Machines
45. Nozzles & Triggers for Petrol Pumps
46. Nozzle Testing Benches
47. Overlock Machines
48. Over Edging Machines
49. Paper Conversion Machinery
50. Pencil Making Machines
51. Permiability Apparatus
52. Plate for Automatic Nut Tapping Machines
53. Postal Weighing Scales
54. Projectors
55. Printing Machines
56. Pulverisers
57. Radiators for Heavy Duty Compressors & Diesel Locos
58. Rolling Mill Machinery
59. Semi Rotary Pumps
60. Seam Welding Machines
61. Soil & Cement Testing Machines
62. Speed Reduction Gears
63. Spray Painting Equipment
64. Steam Presses
65. Stranding Machines
66. Tensile Testing Machines
67. Tube Filling Machines
68. Tobacco Redrying Plant
69. Torsion Testing Machines
70. Vibrating Machines
71. Universal Testing Machines
72. Washing Machines

73. Water Meters
74. Whipping Machines for Blankets
75. Wire Drawing Machines
76. Wire Looms
77. Wood Testing Machines

### I. Machine Tools & Accessories

1. Automatic Hydraulic Presses
2. Automats (Single Spindle)
3. Brake Drum Lathes
4. Deep Drawing Power Presses
5. Diamond Drill Spares
6. Dividing Heads
7. Drill Chucks
8. Drill Sleeves
9. Dog Chucks
10. Gas Regulators
11. Hydraulic Pipe Bending Machines
12. Jigs & Fixtures
13. Lathes (SS & SC)
14. Lathe Chucks
15. Machine Vices
16. Milling Machines (Horizontal & Vertical types) and Attachments
17. Milling Cutters
18. Nozzle Grinding & Tapping Machines
19. Radial Drills
20. Revolving Centres
21. Rock Drill Machinery Spares
22. Rotary Tables
23. Self Centering Chucks
24. Shearing Machines
25. Straight Edges
26. Surface Plates
27. Tool Bits
28. Twist Drills
29. Valve Grinding Machines

### J. Scientific Instruments & Equipment

1. Carbon & Sulphur (in Iron & Steel) Estimation Apparatus
2. Cinema Projectors
3. Dissecting Microscopes
4. Epidiascopes
5. Enlargers
6. Graph Recorders
7. Incubators
8. Microscopes (Lab. Research & Field Types)
9. Muffle Furnace Stirrers
10. Ovens
11. Oil Flow Meters
12. Surveying Instruments
13. Time Pieces
14. Water Stills
15. Wall Clocks

## VIII PRIORITY ITEMS

1. Motorcycles
2. Scooters
3. Bicycles and Bicycle Parts
4. Mopeds
5. Agricultural Tractors
6. Agricultural Machinery and Implements
7. Pumps
8. Fertilisers
9. Pesticides
10. Basic Metal—Iron and Steel, Copper, Aluminium, Zinc and Lead
11. Industrial and Mining Machinery
12. Iron and Steel Castings, Forgings, Pipes and Structures
13. Internal Combustion Engines
14. Machine Tools and Accessories
15. Workshop Machinery and Equipment other than Machine Tools
16. Small tools including Cutting Tools, Power Tools and other Workshop Tools
17. Coated, Bonded Abrasives and Polishing Wheels
18. Industrial Furnaces
19. Welding Electrodes
20. Ball and Roller Bearings
21. Transformers, Switchgears, Motors, Generators, Power Capacitors, Rectifiers, Relays and Electric Stampings
22. Electric Cables and Wires
23. Storage Batteries, Dry Batteries
24. Electronic Components
25. Construction and Earth Moving Equipment
26. Cranes and Hoist Blocks
27. Industrial Fasteners
28. Wire Ropes
29. Scientific and Industrial Instruments
30. Cement
31. Organic and Inorganic Heavy Chemicals including Lead Oxide, White Lead, Zinc Oxide and Titanium Dioxide
32. Fine Chemicals
33. Pulp, Paper and Newsprint
34. Synthetic Rubber

35. Tyres and Tubes
36. Industrial Explosives
37. Industrial Gases
38. Drugs
39. Medical and Surgical Equipments and Appliances
40. Electro-Medical and X-Ray Equipment
41. Refractories, Fire Bricks and Insulators
42. Commercial Vehicles including Jeeps and Three Wheelers
43. Automobile Ancillaries
44. Trawlers, Dredgers and Fishing Boats
45. Leather and Leather Goods
46. Optical and Laboratory Glass and Glass Wool
47. Jute Textiles
48. Tea
49. Coffee
50. Canned and Preserved Fish
51. Sanitary Cans
52. Paints and Varnishes and Enamels
53. Man-made Fibres
54. Matches
55. Telecommunication Equipment
56. Wagons
57. Industrial Refrigeration Equipment
58. Sugar
59. Cotton Textiles

## IX KEY INDUSTRIES

(a) **Metals**

Tool and Stainless Steel, Electric Grade Steel and Ferro Alloys other than Ferro-Manganese and Ferro-Silicon

(b) **Engineering Industries**

1. Heavy Electrical Equipment (including Equipment for Generation, Transmission and Distribution of Electric Energy and Components)
2. Industrial and Power Boilers
3. Instruments and Appliances—Industrial, Scientific, Medical, Surgical and Electronic
4. Electronics Components
5. Metallurgical and Heavy Machinery Equipment
6. Earth-moving Equipment like Excavators, Shovels, Crawler Tractors, Dumpers, Wheeled Loaders, Scrapers and Motor Graders etc.
7. Machine Tools including Small Tools
8. Agricultural Tractors
9. Automobile Ancillaries
10. Industrial Machinery (viz. Sugar Machinery; Cement Machinery; Coal Mining Machinery; Pulp and Paper Machinery and Chemical and Pharmaceutical Machinery)
11. Gas Cylinders
12. Seamless Tubes

(c) **Chemicals and Allied Industries**

1. Synthetic Detergents
2. Essential Drugs and Pharmaceuticals (including Intermediates and Contraceptives)
3. Pulp for Rayon and Paper
4. Catalysts

(d) **Mineral Industries**

1. Mining and Benefication

## X CORE INDUSTRIES

1. **Agricultural Inputs**

    (a) Fertilisers.
        (i) Nitrogenous
        (ii) Phosphatic
    (b) Pesticides (basic chemicals only)
    (c) Tractors and Power Tillers
    (d) Rock-Phosphate and Pyrites

2. **Iron and Steel**

    (a) Iron Ore
    (b) Pig Iron and Steel
    (c) Alloy and Special Steels

3. **Non-ferrous Metals**

4. **Petroleum**
    (a) Oil Exploration and Production
    (b) Petroleum Refining
    (c) Selected Petro-chemicals
        (i) Integrated Petro-Chemical Complexes
        (ii) D.M.T.
        (iii) Caprolactum
        (iv) Acrylonitrile
        (v) Synthetic Rubber
5. **Coking Coal**
6. **Heavy Industrial Machinery** (to be specified)
7. **Ship-Building and Dredgers**
8. **Newsprint**
9. Electronics (Selected Components, Testing and Control Equipment, Wireless and Micro-wave Equipment)

## XI INDUSTRIES ACCORDED PRIORITY FROM CAPITAL GOODS ANGLE

**Industries engaged in the manufacture of—**

1. Motor Cycles, Scooters, Mopeds and Bicycles (including parts)
2. Agricultural Machinery and Implements including Harvestors
3. Pumps, Compressors, Industrial Fans and Blowers
4. Industrial and Mining Machinery (other than those specified in Key Industries)
5. Pipes, Pipe Fittings
6. Internal Combustion Engines
7. Industrial Furnaces
8. Ball and Roller Bearings
9. Power Cables and Telephone Cables and Bus Bars
10. Storage Batteries, Dry Batteries
11. Construction Equipment
12. Cranes
13. Industrial Fasteners
14. Link Chains
15. Commercial Vehicles including Jeeps and Three-Wheelers
16. Trawlers, Fishing Boats, Harbour Crafts and Ancillaries
17. Tele-communication Equipment, Wireless and T.V. Transmission and Radar Equipment
18. Radio Receivers and T.V. Sets
19. Wagons, Shunters and Locomotives
20. Industrial Refrigeration Equipment and Ancillaries
21. Fire Engines, Crash Tenders and other Fire Fighting Equipment
22. Non-Ferrous Semis and Alloys
23. Electric Lamps and Lamp Components, including Miniature Lamps
24. Essential Organic and Inorganic Heavy Chemicals
25. Dyestuff Intermediaries
26. Photographic Films, Stores and Paper
27. Paper
28. Synthetic Detergents
29. Tyres and Tubes
30. Industrial Explosives
31. Industrial Gases
32. Refractories, Firebricks and Insulators
33. Leather and Leather Goods Industries including Footwear
34. Industrial Alcohol
35. Enamels
36. Packaging Industry
37. Man-made Fibre
38. Matches
39. Food Processing Industries
40. Vegetable Oils
41. Ion-exchange Resins
42. Coal Carbonization and Col-tar Distillation
43. Cement
44. Electric Insulating Materials
45. Asbestos Products
46. Electrodes
47. Watches and Time-pieces
48. Ready-made Garments

## XII PROCESSES AVAILABLE FOR EXPLOITATION WITH THE COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION IN INDIA FOR SMALL INDUSTRY SECTOR

### CHEMICAL PRODUCTS

**Dyes and Intermediates**

1. Dimethyl Anile (NCL)†
2. Metanillic Acid (RRL, Hyderabad)†

**Drugs and Pharmaceuticals**

3. †Caffeine from Tea Waste (RRL, Jorhat)*
4. 5, 7-Dichloro 8-Hydroxy Quinoline (CDRI)†
5. Dithranol (NCL)†
6. Lanolin from Wool Grease (CDRI)†
7. Plasma Fractionation, Process for (CDRI) †

**Perfumery and Essential Oils**

8. †Cardamom Oil (CFTRI)*
9. Civetone (NCL)
10. Costus Root Oil (NCL)†
11. Exaltolide (NCL)†
12. Exaltone (NCL)†

**Resins, Adhesives and Waterproofing Agents**

13. Anion Exchange Resins from Tar Acids, Phenols, etc. (CFRI)†
14. Isocyanate based Adhesive (NCL)†
15. Styrenated Alkyds (NCL)†
16. †Styrene DVB Base Anion Exchange Resin (NCL)*

**Surface Coatings**

17. Anti-corrosive paint for ship bottom (RRL, Hyderabad)†

18. †Plastic Masonry Paint (CBRI)*

**Other Industrial Chemicals**

19. Alginic Acid and Sodium Alginate (CSMCRI)†
20. Aluminium Calcium Silicate (CSMCRI)†
21. Benzyl Alcohol (CECRI)†
22. †Benzyl Cyanide (RRL, Hyderabad)*
23. Common salt, High Purity by Solar Evaporation of Brine (CSMCRI)†
24. Magnesium Carbonate, Heavy basic (CSMCRI)†
25. Magnesium Chloride from Sea Bittern (CSMCRI)†
26. Para Nitrobenzoic Acid (CECRI)†
27. Potash Alum from Mixed Salt (CSMCRI)†
28. Potassium Ethyl Xanthate (NCL)†
29. Silica Gel, Special Grade, for Fluorescent Indicator Analysis of Hydrocarbons (HP)†
30. †Substitute for Double Boiled Linseed Oil (NCL)*
31. †Succinic Acid (CECRI)*
32. White Cement and Potassium Salts from Felspar (RRL, Hyderabad)†

## FOODS & BEVERAGES

**Food Products**

33. Bal Ahar (CFTRI)†
34. Flavoured Malt Food (CFTRI)†
35. Infant Food based on Vegetable Proteins (CFTRI)†
36. Macaroni like products (CFTRI)†
37. Paddy, parboiling of (CFTRI)†
38. Paustic Atta (CFTRI)†
39. Protein Hydrolysate (CFTRI)†
40. Protein Hydrolysate from Oilcakes (CDRI)†
41. Rice, Curing of New Rice (CFTRI)†
42. †Weaning Foods based on Vegetable Proteins (CFTRI)*

**Fruits, Vegetables and Condiments**

43. Banana Powder (CFTRI)†
44. Cardamom, Preservation of Green Colour (CFTRI)†
45. Fruits and Vegetables, Wax Emulsion Treatment for Extending Storage Life (CFTRI)†
46. Fruit Toffees (CFTRI)†
47. Papain from Papaya (CFTRI)†
48. †Pectin from Papaya and other Pectin Rich Materials (CFTRI)*
49. Tamarind Juice Concentrate (CFTRI)†
50. White Pepper and Pepper Oil (CFTRI)†

**Fish, Meat and Poultry**

51. Egg Coating Oil to extend Storage Life (CFTRI)†
52. Egg Powder (CFTRI)†
53. Salt Curing of Mackrel (CFTRI)†
54. Silk Worm Pupae Meal (CFTRI)†

**Beverages**

55. Cherry Coffee, Monsooning of (CFTRI)†
56. Lac-Tone (CFTRI)†
57. Malted Beverages based on Vegetable Proteins (CFTRI)†
58. New Beverages based on Vegetable Proteins (CFTRI)†

**Waxes**

59. Sugarcane Wax, Modified (NCL)†

## PULP AND PAPER

60. Reclamation of Old Newspaper by Deinking for Production of newsprint (RRL, Jorhat)†
61. Writing and Printing Papers from Waste Papers free from mechanical pulp by removal of ink particles (RRL, Jorhat)†

## LEATHER AND AUXILIARES

62. †Surgical Sutures (CLRI)*

## CERAMIC PRODUCTS

63. †Autoclave Plaster of Paris (CGCRI)*

## INDUSTRIAL CARBON PRODUCTS

64. Active Carbons (RRL, Hyderabad)†
65. †Projector Carbon (NPL)*

## METALS AND MINERALS

66. Aluminising by Cementation Process (CMERI)†

## ELECTRONIC AND MICROWAVE COMPONENTS

67. Carbon Composition Resistor (NPL)†
68. Carbon Track for Potentiometer (NPL)†
69. †Hard Ferrites (NCL)*
70. †Microwave Components (NPL)*
71. Soft Ferrites (NCL)*

## ELECTRICAL, ELECTRONIC AND RADIO INSTRUMENTS AND EQUIPMENT

72. A.C. Line Voltage Regulator-automatic Motor Controller (CMERI)†
73. Conductivity Bridge 521 L (CSIO)†
74. †D.C. amplifier (NAL)*
75. D.C. Amplifier for Photoelectric Devices (CSIO)†

76. Electronic Timer 405 L (CSIO)†
77. Flash Gun Tube, Electronic (CEERI)†
78. †Radio Receiver, Low Cost (CEERI)*
79. Gas Mask Conisters, Revification of (CFTRI)†
80. Hand Torch Suitable for work on Glass-Blowing Lathe (CSIO)†
81. Humidifier (CSIO)†
82. Master Torch (CSIO)†
83. Metal detector (CMERI)†
84. Radiators, Evaporative Cooling of I.C. Engine Radiators (CMERI)†
85. †Slide Rule and Allied Products (RRL, Hyderabad)*
86. Strain Gauge Allelerometer (CMERI)†
87. Strain Gauge Load Cell (CMERI)
88. Turret Type Noiseless Burner (CSIO)†

## CELLS AND BATTERIES

89. †Nickel Cadmium Batteries (CECRI)*

## MACHINERY FOR OPTICAL GLASS WORKING

90. Lens Grinding and Polishing Machine, Single Spindle and Motor Driven (CSIO)†
91. Lens Grinding and Polishing Machine, Four Spindle and Motor Driven (CSIO)†
92. Pedal Polishing Machine for Lenses (CSIO)†
93. 2-Spindle Roughing Machine for Optical Components (CSIO)
94. 4-Spindle Roughing Machine for Optical Components (CSIO)

### Others

95. †Brick Making Machine (CBRI)*
96. Dryer for Drying of Erecanut (CFTRI).
97. †Fish Meal Cooker, Pat. No. 109185 (RRL, Bhubaneshwar).
98. Fluid Energy Mill, Pat. No. 112576 (RRL, Bhubaneshwar)*
99. †Mechanical Salt Harvesters, Design of (CSMCRI)*
100. †Wind Mills (NAL)*

## BUILDINGS AND ROADS—MATERIAL AND TECHNIQUES

101. †Engineering Bricks/Paving Bricks/Acid Resistant Bricks (CBRI)*

## WATER PURIFICATION AND PUBLIC HEALTH ENGINEERING

102. Humidification—Dehumidification and Electro-Dialysis Plants, Design of (CSMCRI)†
103. Rural Latrines, Night Soil Wheel Barrows and other Sanitary Wares (CPHERI)
104. Sewage Treatment and Disposal by Oxidation Pond (CPHERI)†
105. Solar Still, Design of (CSMCRI).

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*Processes under negotiation as on 1-4-1968.

†Processes marked are suitable for adoption by small scale units.

# 3

## 3. SMALL INDUSTRY EXPORTS

I THINGS AN EXPORTER SHOULD KNOW
II EXPORT CREDIT GUARANTEE CORPORATIONS SCHEME OF ASSISTANCE
III STEPS TAKEN TO PROMOTE EXPORTS
IV REPORTS AND STUDIES PUBLISHED BY INDIAN INSTITUTE OF FOREIGN TRADE
V ITEMS CURRENTLY EXPORTED FROM SMALL INDUSTRY SECTOR
VI ITEMS SELECTED BY STATE TRADING CORPORATION FOR INTENSIVE EXPORT PROMOTION
VII EXPORT ENQUIRIES FROM JAPAN

## I THINGS AN EXPORTER SHOULD KNOW

### Introduction

An established manufacturer/exporter engaged in foreign trade knows what is required to be done. There are, however, some who are concerned for the first time with export of engineering goods. This write-up has been prepared with a view to bring to the notice of such businessmen, simple things in a simple way.

### Stage-I

*Receipt of Enquiry*

As soon as you receive an enquiry from a party abroad, you have to send a polite and courteous reply thanking him for the enquiry and giving him your quotation. Please note that like you, there may be other sellers, who may have approached him. He wants to know from you the price at which the goods will reach the port of his country. He would like that you should quote him either in Pounds Sterling (£) or in US Dollars ($) which are internationally accepted currencies. You may quote in Indian Rupees as well to some of the neighbouring countries. The price at which the goods reach the port of the buyer is known as C.I.F. (cost, insurance and freight).

*How To Calculate the C.I.F. Price*

If you have an ex-works price you have to add to it:

(a) The cost of transport from your factory or godown to the port,
(b) Port Commissioner's charges,
(c) Shipping freight, and
(d) Insurance from warehouse to warehouse,

and deduct from it the expenditure you want to make to incur to enter the export market and compete with others. If your prices are F.O.B. Destination in the country, deduct the element of internal freight from it, if the factory is at the port, and add to it the transport charges from the warehouse to the port, the shipping freight, Port Commissioner's charges and insurance and freight. The price which you have thus arrived at must be converted into Pounds Sterling (£) or US Dollars ($) and quoted to the foreign buyers.

There are certain countries which want that buyers must insure the goods in their own country. This is usually done to encourage the local insurance companies and also to facilitate settlement of claims, in case goods are lost or damaged in transit. In such cases you have to quote only C. and F. (cost and freight), insurance being undertaken by the buyer himself.

In this connection, we may point out that when the quotation is C.I.F., you can insure the goods from warehouse to warehouse but if the quotation is C. and F. then you must see to it that the buyer has insured the goods from your warehouse. In any event, to be on the safer side, you yourself must insure from your warehouse to the ship. This will be sufficient if the goods are exported against Letters of Credit. But if the goods exported are against Document on Acceptance or Document on Payment, you are advised to take out an insurance from warehouse to warehouse, even if the contract is C. and F.

The C.I.F. quotation should include the following:

(a) the period of delivery;
(b) the mode of payment;
(c) the packing and specifications; and
(d) the commission or discount, if any.

You may also mention about arbitration.

The more detailed the information to help the buyer to come to a decision, the better it is. The

C.I.F. quotation should preferably be accompanied by Pro-Forma invoice.

### *Preparation of Goods for Despatch*

If quotations and terms of delivery etc. are accepted, you will get a formal order from the buyer for the specified items. As soon as you get the order, you should communicate your acceptance to the party. You should take immediate steps to manufacture the goods, if they are not already in stock, according to the specifications desired. You have to issue a Despatch Order (D.O.) to your works giving all the details about the port, the name of the consignee, his address, agency shipper, quantity, specifications, packing specifications, terms of payment, shipping instructions and so forth. It is in your interest to appoint a Liaison Officer who should co-ordinate the activities of the works, sale, despatch and packing sections and to ensure that the goods are despatched in time.

## Stage-II

### *Shipping*

As soon as the order is placed you should contact the shipping companies, who have sailings to the port to which your goods have to be sent. The shipping companies have usually their agents who accept the cargo on their behalf and similarly there are clearing and forwarding agents who will work for you on a certain commission. These agents are very useful as they have regular contacts with the shipping companies and their agents, and specialise in the job. It is in your interest to entrust the work of despatch to clearing and forwarding agents, if you cannot or do not want to keep a large staff yourself.

In any case, you have to apply for space in the ship, which offers to accept cargo for the particular port. You can get the necessary information about sailings from the "Daily Shipping Intelligence" to which you can subscribe. It is better, if you employ a freight broker for which you do not have to pay anything. He will keep you informed as to when a ship is sailing and for which port. On your application or on application by the freight broker on your behalf, the shipping company issues a Shipping Order, if the space applied for, is accepted.

There are two kinds of acceptances—one is called Shipping Advice and the other Shipping Order (Dead Freight). In the case of the former, the shipping company is not bound to accept the cargo. It is only an intimation to the party that the goods will be accepted on the ship—these may or may not be accepted. In the case of the latter, the shipping company binds itself to accept the cargo and on its failure, it can be sued also for loss or damages.

The Shipping Order is an instruction by the Shipping Company to the Commanding Officer of the ship that the goods from you as per details given should be received on board. The original is given to you and the copy is sent to the Commanding Officer of the ship.

### *Weighment and Measurement of Cargo*

To ascertain the correct weight of Cargo, the shipping companies have made arrangements with Measurement Department of various Chambers of Commerce. The Cargo which is loaded through shed, is weighed and/or measured at the export shed prior to shipment and the overside cargo is measured and weighed at the time of loading.

Since the Measurement Departments handle only 5 to 10 per cent of the total cargo, it will be in the interest of the shippers to furnish the break-up or lot-wise specification of different sizes of packages either on weighment and/or measurement basis. These details can be recorded either in Dock Challan or Boat Note.

For crated or case cargo, lot-wise specification of measurement and for bundles and hardware etc. specification of weighment will be necessary. For instance, an exporter of buckets should mention quantity and weight of bundles against each size. Similarly for case or crates containing steel furniture, sewing machines, fans and so forth, the quantity of packages of each size (according to measurement) should be declared.

If the lot-wise specification cannot be recorded either in the Dock Challan or Boat Note, an additional copy of the Invoice may be handed over to the Measuring Officer on duty at the shipment shed or be sent to the Office of the Chambers concerned.

Since the freight is ascertained on the basis of the weighment and/or measurement certificates issued by the Chambers, the bill of lading is normally released by the shipping companies on the receipt of the relevant certificates.

Sometimes the foreign buyers in their letters of credit stipulate that sellers should furnish measurement certificates. Extra copies of such certificates can be had from the Chambers against payment of a nominal fee.

*Mid-Stream Vessel and Shed Vessel*

Sometimes the vessels accept export cargo through the jetty and sometimes they load in midstream. When the vessels are in midstream, the cargo has to be taken by the boats for loading and this is called overside loading. In such cases you have direct touch with the ship without the Port Commissioners' formalities and you do not have to bear the loading and unloading charges which are usually called Port Commissioners' charges.

When the goods are loaded in the shed vessel, they have to be sent to the Port Commissioner's jetty from where they are loaded and taken care of by the men of the Port Commissioners.

*Port Commissioners' Charges*

You will have to pay the following charges to the Port Commissioners before the goods are sent to the shed:—

(i) Shipping
(ii) Unloading
(iii) River Dues
(iv) Surcharge
(v) Ad Valorem or Fixed Toll
(vi) Rents, if any
(vii) Removal, if any
(viii) Shunting.

If you have to send the goods for overside loading (midstream), then you are required to pay only (1) River Dues, (2) Surcharge, (3) Ad Valorem or Fixed Toll, and (4) Rent. Of course, you have to pay for the boat charges, which will depend on the amount of cargo and the rate of charge fixed between you and the boatmen.

*Landing Slip*

On payment of the landing charges you get a small slip called Landing Slip. If you have to send the goods to the Port Commissioners' shed, you will have to use either a lorry or a cart. You have, therefore, to prepare an Export Cart/Lorry Ticket giving the name of the Ship, Number, Shed, Shipper Marks on Packages, Quantity and Description. You have also to send along with the Lorry Ticket, a form called Dock Challan giving the details about the consignment, its marks, number, description, quantity and such other information as may be required.

## Stage-III

*Customs Formalities*

Every country has its own rules and regulations about the export of commodities. It is the duty of the Customs authorities at the port to see that the goods sent out are permissible and all the formalities have been gone through and that the law of the land has been complied with.

The first thing the Customs authorities will see is whether the goods you are exporting are permissible and whether you have obtained the Export Licence from the Joint Chief Controller of Exports, wherever such a licence is needed.

*Shipping Bill*

After you have obtained the Export Licence, you have to prepare the Shipping Bill, which may be either for Free Goods (i.e. without duty) or with duty. Sometimes, when a separate Export Licence is not obtained, endorsement can be had on the Shipping Bill itself. This Shipping Bill has a number of columns such as the name of the Vessel, Master or Agents, Flag, Port at which goods are to be discharged, Country of final destination, the Exporter's Name and Address. There are also details about the packages and the goods such as Number and Description, Marks and Number, Quantity, details about each case, F.O.B. prices, Real value as defined in the Sea Customs Act, whether Indian or foreign merchandise to be re-exported, total number of packages, their total weight and value. The Shipping Bill has also columns on the right hand side for Port Commissioners' Stamp and for Customs House Stamp. The Port Commissioners' Stamp will be put as soon as the receipt for landing charges is shown to the official concerned. The Customs official will put his stamp, when the appraiser has satisfied himself about the F.O.B. and the Real Value of the goods and whether the goods have the licence or endorsement, if required.

Usually the F.O.B. value must be higher than the Real Value, but in the context of the present-day emphasis on export drive, the Customs officials sometimes make a departure, if satisfied that the F.O.B. value had to be kept low on account of competition. After the Customs appraiser has checked a number of details, for example, if the ship is registered, if the licence is required, the F.O.B. and Real Values, he will issue instructions to the Preventive Officer on Board the ship to check a certain percentage of cases. After the order is issued the duplicate copy of the Shipping Bill is returned to you and you have to take it to the Preventive Officer for examination and if he is satisfied he will allow the shipment by endorsing on the Dock Challan, when goods are sent for Shed Vessel and on the Boat Note when the goods are sent for overside loading. The shipping company will then load the cargo on the ship.

*Customs Checking at the Factory*

If you so wish, you can apply to the Assistant Controller of Customs for checking the goods at the factory. You will have to pay for the overtime and the Customs House will send an appraiser to your factory where the consignment will be checked. After inspecting and checking the appraiser will seal the packages. The Preventive Officer on board the ship has the right to inspect the sealed packages also, before they are actually loaded on the ship, but when satisfied about the bonafides of the party, the sealed packages are not opened and checked again by the Preventive Officer.

### Stage-IV

*Quality Control and Pre-Shipment Inspection*

At the final stage when your goods are ready for shipment, they will be subjected to quality control and preshipment inspection by the Export Inspection Council—a body formed under the legislative enactment embodied in Export (Quality Control and Inspection) Act, 1963 which was necessitated to ensure quality of goods that are sent to foreign markets to build up a high reputation for products of Indian origin. The nature of inspection would, however, depend upon the nature of the product.

### Stage-V

*Exchange Control Formalities*

When you send goods outside the country, you have an obligation to satisfy the Reserve Bank of India that you have received the payment from the overseas buyers. The Government would not allow you to export for no consideration and if you do not get the money (foreign exchange) from the overseas buyer, you subject yourself to prosecution for contravening the Foreign Exchange Regulations.

*G.R. Form (I)*

The first thing you are required to do is to fill up the G.R. Form (I) in quadruplicate, and submit the original copy bearing the word, "Original" on the top right corner to the Customs along with the Shipping Bill. You should send the other three about which reference will be made later on.

After passing the Shipping Bill, the Customs will send the Original G.R. Form (I) to the Reserve Bank of India, Exchange Control Department; when the payment is received by your Bank, it makes endorsement on the Duplicate of the G.R. Form (I) and sends it to the Exchange Control Department of the Reserve Bank of India. The Exchange Control Department will verify with the original G.R. Form (I) and if satisfied, the file will be closed, otherwise the Reserve Bank of India will go on reminding you till the payment is received. Action is taken under Exchange Control Regulations, if you fail to get the payment from the overseas buyer in spite of repeated reminders.

### Stage-VI

*Negotiation of Shipping Documents*

After your goods have been loaded on the ship, the Commanding Officer of the ship will issue a receipt for goods loaded—called the Mate Receipt. You have then to prepare the following documents—

*Bill of Lading:* Each shipping company has its own Bill of Lading and as soon as the Mate Receipt is obtained you should prepare at least two copies of the Bill of Lading. They must have stamps. If you wish, you can prepare additional copies of the Bill of Lading. You should submit two copies along with the Mate Receipt to the Shipping company, who will calculate the freight on the basis of the measurement or weight as certified by the Measurement Department of any recognised Chamber of Commerce. If you export from Calcutta, you can obtain the certificate from the Measurement Department of the Bengal Chamber of Commerce or the Indian Chamber of Commerce, who have arrangements for measuring the goods, before they are loaded on the ships. In case of overside loading, measurement is done on the ship itself.

After the shipping company has calculated the freight, you will be informed. When you have paid the freight, the Bill of Lading duly signed by the authorised person of the shipping company is handed over to you. The specimen copies of the signature of the person signing the Bill of Lading are already with the Banks.

*Invoice:* There are special Invoice Forms for special countries. Some of them do not have any special Form and you have to prepare your own. For instance there are separate Invoice Forms for Tanganyka Territory, Kenya, Uganda, Port Louis, Federation of Rhodesia and Nayasaland, Southern Rhodesia, New Zealand, Burma, Guinea, Trinidad, etc. For others, there are no special Invoice Forms and you can have a Standard Form prepared. In almost every case, you have to mention the name of the buyer, the country of origin, marks and numbers of packages, quantity and description of goods, selling price to the purchaser, name of the ship and order number, etc. You should obtain the copies of the Invoice Form for a particular country from any recognised Chamber of Commerce or from the buyer. The invoice must be prepared at least in triplicate.

*Demand Draft:* The Demand Draft is an order, to the party to whom you have sold the goods, in which you instruct the party to pay at or after sight the sum of (mention the value) to the order of the Bank. The demand Draft has to be prepared in duplicate.

*G.R. Form (I):* As already, stated you have to submit the original to the Customs. The other three copies have to be sent to your Bankers.

*Insurance Policy:* As soon as your goods are ready, you have to take out an insurance policy unless otherwise advised by the party. You should take out the policy for the C.I.F. Value plus 10 per cent to cover other expenses which your buyer might have to incur in expectation of safe arrival of the goods.

*Letter of Credit (if any):* There are (a) Irrevocable and Revocable Letters of credit, (b) With Recourse and Without Recourse and (c) Confirmed and Unconfirmed Letters of Credit. If the Letter of Credit is irrevocable, the party cannot revoke once the L.C. is opened whereas in the case of Revocable L.C.'s, changes can be made after the L.C. is opened. Recourse Letter of Credit is one where on failure of the party to pay to the Bank after the specified period, it comes on you. There is no such provision in the Letter of Credit Without Recourse. In the case of Confirmed Letter of Credit, the payment of foreign exchange is confirmed by the Bank but not so in the case of Unconfirmed Letter of Credit. The best thing for you is, therefore, to insist on Confirmed Irrevocable Letter of Credit. Not only do you get the payment from the Bankers on presentation of the shipping documents after the Bank has been satisfied that the conditions in the L.C. have been complied with, but the foreign exchange is also assured.

*Certificate of Origin:* You must obtain a Certificate of Origin from any recognised Chamber of Commerce, Export Promotion Council, or Government Department on payment of a small fee.

The above seven documents must be presented to your Bank for negotiations. Your Bank will then forward the papers to the party's Bank for collection of the amount from the party.

### *Other Modes of Payment*

In addition to the Letter of Credit, there are two ways of making payment. Sometimes the buyer makes the payment to the Bank on presentation of documents. This is called Document on Payment (D.P.) or Sight Draft. Sometimes the buyer promises to pay after a period of say 60 days or 90 days. The documents are handed over to the party on the promise that payment will be made after so many days. This is called Document on Acceptance (D.A.). After your bank gets the payment from the party's Bank, the endorsement is made on the G.R. Form (I), referred to earlier and sent to the Reserve Bank Exchange Control Department for verification. If you have obtained the Confirmed Irrevocable Letter of Credit, it means that the party is bound to honour the documents when presented and you are sure of the receipt of foreign exchange.

The moment your Bank has received the payment from the party's Bank and the Exchange Control Department of the Reserve Bank is satisfied that the foreign exchange has been received, you may consider the transaction to be finally closed.

## Stage-VII

### *Commission to Agents*

You may have appointed agents through whom you have secured orders. Under the terms of agreement you may be required to pay a certain commission to the agents. Since the remittance of money from India cannot be made without the permission of the Exchange Control Department of the Reserve Bank, you are advised to get the terms of agreement with your agents approved by the Reserve Bank of India. Once this agreement is approved, you will be given permission to remit the commission as soon as you apply to the Exchange Control Department in Form—A. This application should be accompanied by a statement showing the G.R.

Form (I) on which the shipment was declared, Date of Shipment, Port, Invoice No., Invoice Value, D/D No., Date of Negotiation, Amount Negotiated, Commission due, etcetera. If the Agreement is not approved then the permission for remittance of commission may create some difficulty. It is, therefore, in your interest to get the agency agreement approved.

## II EXPORT CREDIT GUARANTEE CORPORATION'S SCHEME OF ASSISTANCE

Competition in the world market is severe. The bargaining power no longer rests with the sellers. The buyers dictate terms and insist among other things, on credit terms.

Every credit transaction involves an element of risk. The buyer may default; he may go bankrupt. He may be a victim of war, quake or typhoon, which may wreck his fortunes. There may be an import restriction, a moratorium or an embargo on remittances; there may be an insurrection; or a Coup D'etat in the buyer's country. In all such events the exporters' money might be blocked abroad, and he may find himself in serious difficulty.

Several years ago, Indian exporters had to carry the burden of these risks on their own shoulders. Now they can pass on their cares to the Export Credit and Guarantee Corporation—or ECGC as it is popularly called—for a modest premium.

*Risks Covered*

ECGC insures a variety of risks. In the main, covers are issued for the following risks.

*Commercial Risks*

(a) Insolvency of the buyer,
(b) Protracted default of the buyer to pay for the goods accepted by him,
(c) Failure of the buyer to accept the goods where it is proved that non-acceptance is not caused by the exporter's actions.

*Political Risks*

(a) Government action which blocks or delays transfer of payment in rupees to the exporter;
(b) War between the buyer's country and India;
(c) War, revolution or civil commotion in the buyer's country;
(d) Imposition of new import licensing restrictions in the buyer's country or cancellation of a valid import licence;
(e) Cancellation of export licence or imposition of new export licensing restrictions;
(f) Additional handling transport, or insurance charges arising from interruption or diversion of voyage which cannot be recovered from the buyer.
(g) Any other cause of loss occuring outside India and not within the control of the exporter or the buyer.

*Risks not Covered*

ECGC does not cover the following risks;

(a) losses due to dispute about quality;
(b) losses due to causes inherent in the nature of goods;
(c) losses due to the buyer's failure to obtain the import or exchange authorisation required in the buyer's country;
(d) losses arising from the act of default of the exporter or his agent;
(e) losses due to fluctuations in exchange rates;
(f) risks covered by General Insurers.

*Type of Policies*

To suit the varying requirements of the exporters and to provide for widely differing patterns of trade, ECGC issues, inter alia, the following types of policies:

(i) Shipments (Comprehensive/Political Risks) Policy.
(ii) Contracts (Comprehensive/Political Risks) Policy.

The first set of policies covers the risks of the insured from the date of shipment, whereas the second category of policies protects his interests from the date of the contract. In either case, the exporter may seek a comprehensive policy, covering both 'commercial' and 'political' risks. But, he has also the option to secure himself only against 'political risks' if he so chooses.

These policies indemnify the exporter to the extent of 80 per cent of the loss in the case of 'commercial risks' and 85 per cent in the case of 'political risks'.

Any recoveries made after the payment of claim are shared between ECGC and the exporter in the same proportion.

The policies are normally issued to cover all shipments for a minimum period of twelve months. However, shipments against letters of credit or those made to 'associates' need not be insured. Insurance covers for selected markets can also be issued, provided the business offered for insurance gives ECGC fair spread of risks. Where the exporter deals in different types of goods, he may exclude from the cover, goods which are not of allied nature, if he so wishes.

### *Premium Rates*

Premium rates are assessed for each country separately and vary according to the type of goods exported, the terms of payment, the nature of the policy and the exporter's previous experience. Detailed information can be obtained on request.

ECGC works on a 'no profit, no loss' basis; the premium rates are moderate and by no means, burdensome to the exporter—just enough to cover the operating expenses and to meet the claims. The average rate of permium is about a quarter per cent.

### *How to Insure*

An intending exporter should fill in a proposal form obtainable from any of ECGC's offices (addresses given at the end). He should state in the proposal form, whether he is excluding business with any country or countries from the scope of the cover. After examining the proposal the ECGC normally sends an Acceptance Letter, quoting the premium rates and calling for a minimum premium. The minimum premium, or the premium actually paid during the twelve months of the policy whichever is less, is refunded to the exporter if he complies with the conditions of the policy. If the policy is renewed, the minimum premium is carried forward.

An ECGC policy is valid for twelve months. No separate cover is necessary for individual shipments or contracts.

### Reporting Shipments/Contracts

The policy-holder has to send before the 10th of each month a declaration of shipments/or contracts. Premiums have to be paid at the rates prescribed in the schedule attached to the policy. He should also send a statement of the payments that fell due in the preceding month and which have remained outstanding.

### Credit Limits

Within the framework of the policy, the ECGC fixes credit limits on each foreign buyer. The exporter can offer credit terms to the buyers within these limits without reference to ECGC. The Exporter may ask for a higher limit, if necessary.

### Settlement of Claims

Claims are paid by the Corporation as under:—

(i) If an overseas buyer goes insolvent, one month after the exporter's loss is admitted to rank against the insolvent's estate or 6 months from the date whichever is earlier.

(ii) In the case of a buyer's protracted default immediately after six months from the due date. (In both these cases if the bill has been assigned in favour of a bank, the claim is payable 4 months from the due date of payment.)

(iii) In respect of additional handling, transport or insurance charges incurred by the exporter because of the interruption or diversion of voyage outside India, as soon as the proof of loss is furnished.

(iv) In all other cases four months after the event causing the loss.

### Benefits of Insurance

ECGC affords financial protection to the exporter against commercial and political risks enumerated above. It lubricates the credit system which is one of the main springs of economic activity. It helps the exporter to offer credit terms to his overseas buyers—a factor which is assuming growing importance in inter-national trade.

### Export Finance

Export risks insurance also serves the exporter to improve his financial standing vis-a-vis his bankers. ECGC policies are assignable to banks. An assignment does not constitute a gilt-edged security, but is certainly a useful collateral acceptable to banks on the basis of which the exporter can secure a line of credit. ECGC has evolved three Guarantees: (i) Packing Credit Guarantee, (ii) Post-shipment Export Credit Guarantee, (iii) Export Finance Guarantee which enable the exporter to enlarge his business without unduly developing or straining his financial resource.

**Credit Information**

ECGC furnishes the exporter, in its endeavour to improve the quality of its own risks, valuable information about the financial standing and credit worthiness of his overseas buyers. If ECGC declines to accept a cover or to approve a credit limit, it should be deemed to be the danger singal for the exporter which he can ignore only at this own peril.

**Recoveries**

ECGC also assists its policy holders in the collection of their dues and debts and the remnants of salvage. It places at their disposal its knowledge of legal and procedural matters; it irons out technical difficulties.

**Addresses**

The Export Credit & Guarantee Corporation Ltd.,
(A Government of India Concern)

*Head Office*: 4, Rampart Row, Bombay-1.
*Branch Office*: 15, Chittaranjan Avenue, Calcutta-13.
6, Armenian Street, Madras-1.
*Local Representatives*: M/s. Chakait, Agencies, Post Box 25. Cochin-3.
The Punjab Export Corporation Ltd., 15-E, Sector, 9-D, Chandigarh.

## III STEPS TAKEN TO PROMOTE EXPORTS

(a) Exporters can obtain imported raw materials required for export production under the policy of import replenishment.

(b) Cash assistance is allowed on exports of selected products to develop marketing competence and to neutralise the disadvantages inherent in the present stage of development of the economy.

(c) Government consider extending additional assistance needed for exporters to bid for and secure contracts for export, for high value, not less than Rs. 50 lakhs. Each case is considered on merits.

(d) Priority is extended in the matter of supply of indigenous raw materials needed for export productions.

(e) Important indigenous raw materials like iron and steel for engineering industry and some raw materials for the plastics industry are made available for export production at international prices.

(f) Credit, both pre-shipment and post-shipment, is made available to exporters at the concessional rate of 6%. Other facilities like guarantees by the Export Credit and Guarantee Corporation and subsidy to lending banks through Reserve Bank of India, enable exporters to secure advances from banks readily.

(g) The time limit for receipt of payment against exports of industrial machinery has been raised from 5 to 7 years, which may be extended upto 10 years in special cases. Insurance cover and guarantee from the Export Credit and Guarantee Corporation are also available for such extended period.

(h) Industrial Development Bank of India has announced a Scheme in December 1968, under which the Bank will be prepared in appropriate cases, to enter into participation arrangements with approved commercial banks providing term Finance and Guarantee facilities to industrial concerns exporting capital and engineering goods and services on deferred credit basis.

(i) The minimum limit to qualify for obtaining blanket permits of foreign exchange has been reduced to Rs. 5 lakhs of exports per year in the case of non-traditional goods and Rs. 25 lakhs in the case of traditional goods.

The Blanket permit of foreign exchange will, under the latest policy, be made valid not only to cover expenditure on business travels abroad but also other approved expenditure like market studies, participations in fairs. Import of samples, imported under the blanket foreign exchange permit, are exempt from Import Control Regulations.

(j) Foreign exchange requirements for import of capital goods and equipment required by export oriented units are met on a preferential basis.

(k) Export duties have been reduced in the case of selected manufactured products, such as jute manufactures, coir products, tanned leather of bovine animals but excluding calf skins, and finished leather, with effect from February 7, 1968.

(l) Drawback of customs and central excise duties is allowed on export of various products.

(m) Tax payers other than foreign companies, incurring expenditure for the development of export markets will be allowed deductions of 1⅓ time such expenditure. The items for expenditure include overseas publicity offices abroad, submission of tenders etc.

(n) Tax exemption is allowed on income received by Indian Companies from foreign firms for supply of technical know-how and such services.

(o) A priority treatment has been accorded to the Seed Processing Industry under Income-Tax Act.

(p) Higher development rebate is allowed for solvent extraction industry in respect of new equipment.

(q) Cotton textiles Industry and Jute Industry have been included in the priority list for purposes of income-tax.

(r) Concessional railway freight is allowed on the movement of a large number of export products from centres of production to the ports of exports.

(s) Export Houses recognised by the Government of India have been made eligible to obtain grant-in-aid for an increasing range of activities that promote marketing efficiency and overseas market research. The scale of assistance has also been liberalised.

(t) Exporters having outstanding export performance are eligible for awards by the Government of India. The work relating to the product development, explorations of difficult and new markets, distinct contribution in the export field etc. is taken into account for the grant of awards.

## IV REPORTS AND STUDIES PUBLISHED BY INDIAN INSTITUTE OF FOREIGN TRADE

**Seminar Reports**

Exports of Rayon and Synthetic Textiles
Northern Region Conference on Export Promotion
Exports of Machine Tools
Cardamom
Tabacco Exports
Cost Reduction for Exports
Cashewnut Shell Liquid

**Commodity Study Reports**

Animal Castings
Export Potential of Okhla Industrial Estate.
Electric Lamps and Fluorescent Tubes
Hand Tools and Small Tools
Automobile Ancillaries:
- (a) Radiators
- (b) Brake Linings and Clutch Facings
- (c) Filters—Air, Oil and Fuel
- (d) Shock Absorbers
- (e) Engine Valves
- (f) Lead Springs

Agricultural Implements and Machinery

**Market Survey/Country Study Reports**

Country Survey Report on Libya
Report on the Market Survey of Insecticides, Pesticides etc. in Iran.
India's Trade Prospects with Brazil
A study of Marketing Opportunities for Selected Goods in Japan.

**General Research**

Trading with the World (Country Profiles)
UNCTAD-II—A Step Forward
Export Development in Industrial Estates
Export Marketing Operations
A Case Study Approach
Bibliography on Overseas Market
Surveys of Indian Products
Joint Industrial Ventures
Export Credit and Credit Insurance
Facilities in India and Abroad

**Other Reports**

Survey of India's Export Potential of Fresh and Processed Fruit and Vegetables (6 volumes)
Survey of India's Export Potential of Spices (3 volumes)
Survey of India's Export Potential of Oilcakes (5 volumes)
Survey of Overseas Transport and Freight Structure Export Trade (6 volumes)

Survey of India's Export Potential of Machine Tools (3 volumes)

Survey of India's Export Potential of Leather and Leather Products (4 volumes)

Survey of India's Export Potential of Textiles and Made-Up Garments (5 volumes)

Survey of India's Export Potential of Wood and Wood Products (4 volumes)

Survey of Export Houses in India's Foreign Trade (3 volumes)

Survey of India's Export Potential of Marine Products (6 volumes)

Survey of India's Export Potential of Jute and Jute Products (volume 1 only)

## V ITEMS CURRENTLY EXPORTED FROM SMALL INDUSTRY SECTOR

**Chemical and Allied Products**

1. Dry Colours
2. Fungicides
3. Pigments
4. Synthetic Resins
5. Printer's Ink

*Other Products*

1. Agarbatti and Chandan Dhoop
2. Inorganic Salts

*Plastic Products*

1. Ball Point Pens
2. Cinema Screens
3. Metalised Hair Clips
4. Hand Bags
5. Idols
6. Jewellery
7. Rain Coats
8. Toys, Flowers etc.

**Electrical Products**

*Electrical Light Fittings and Accessories*

1. Bakelite Electrical Accessories
2. Tube Holders

*Miscellaneous Products*

1. Brass Terminals
2. Industrial Heater Elements
3. Kettle Elements

*Electronics Products*

1. Inter-communication Sets

**Glass, Ceramics and other Products**

1. Glass Beads
2. Glass Slides
3. Diamond Powder
4. Mica Powder
5. Polished Diamonds

**Leather and Leather Products**

1. E.I. Tanned Hides and Skins of Goat, Sheep and Buffaloes
2. Ladies fancyarticles
3. Ladies Hand Bags
4. Sports Goods

**Miscellaneous Light Engineering Products**

1. Automobile Leaf Springs and Assembly
2. Barbers' Scissors
3. E.P.N.S. Wares
4. F.M. Plates
5. Lawn Mowers
6. Printing Types
7. Springs
8. Spring Pins
9. Surgical Instruments
10. 'U' Bolts and Nuts
11. Wall Lamps.
12. Watch Straps

**Builders' Hardware**

1. Brassware Fittings
2. M.S. Dog Spikes

**Miscellaneous**

1. Mortile Lock Sets

**Industrial Machinery**

1. Furnaces
2. Industrial Combustion Engines
3. Plastic Machinery
4. Printing Machinery, Attachments and Miscellaneous Equipment
5. Sluice Valves
6. Sugar Machinery
7. Tea Fibre Extractors

## VI ITEMS SELECTED BY STATE TRADING CORPORATION FOR INTENSIVE EXPORT PROMOTION

1. Agricultural Implements and Tools
2. Auto-Parts
3. Bath Pipe Fittings
4. Canned Food Stuffs, Vegetables, Pickles, Fruits Juices etc.
5. Cutlery
6. Cycle Parts
7. Diesel Engines and Parts
8. Domestic Electric Appliances like Electric Irons, Toasters, Water Heaters etc.
9. Electric Fans
10. Office Machinery like Duplicators, Hand-numbering machines
11. Limitation Jewellery
12. Locks, Builder's Hardware
13. Paint Brushes
14. Plastic Bangles/Necklaces/Combs etc.
15. Pressure Stoves, Lanterns, Mantles etc.
16. P.V.C. Cables/Wires
17. Razor Blades
18. Sewing Machines
19. Spectacle Frames
20. Sprayers, Dusters
21. Steel Furniture-Domestic and Office
22. Storage Batteries
23. Surgical instruments Made of Stainless Steel
24. Talcum Powder (Soapstone Powder)
25. Wood Screws, Roofing Bolts etc.
26. Woollen Hosiery

## VII EXPORT ENQUIRIES FROM JAPAN

**Sewing Machine Parts**

1. Tension Regulator
2. Shuttle hook
3. Bobbin case complete
4. Thread take-up lever complete
5. Tension Disc
6. Open shuttle race complete
7. Slide plate complete
8. Needle plate
9. Feed dog
10. Feed bar (Singer Pat. No. 2835)
11. Clamp stop motion clamp screw
12. Shuttle driver with spring
13. Feed driving shaft with crank
14. Feed driving shaft without crank
15. Feed lifting rock shaft with crank
16. Feed lifting rock shaft without crank
17. Shuttle race back ring
18. Feed forked connection (Reversible type)
19. Thread take-up lever screw
20. Thread take-up lever roller complete
21. Oscillating shaft crank slide block
22. Pressure foot (Hinge without spring)
23. Needle clamp
24. Needle bar connecting stud
25. Needle bar connecting link hinge screw and nut
26. Needle bar connecting link
27. Shuttle race slide
28. Throat plate
29. Oscillating shaft crank roller and slide
30. Face plate
31. Balance wheel (Standard and handle type)
32. Pitman crank (Narrow and wide both)
33. Threadle centre (Screw and nuts)
34. Main feed rock shaft hinge pin
35. Differential feed lever
36. Looper driver connection
37. Needle bar drive crank pin
38. Bobbin case
39. Rotary hook
40. Arm Shaft
41. Thread take-up cam
42. Crank connecting rod
43. Pressure regulating thumb screw
44. Long needle bar
45. Needle bar bushing
46. Open shuttle race body
47. Drop feed complete
48. Bobbin winder complete with thumb screw
49. Oil cam
50. Attachment box (Tin case)
51. Screw drivers for bobbin
52. Rotating Hook Holder (for Industrial Sewing Machine)

### Automobile Parts

1. Half finished ignition coils
2. Clutch assembly parts:
    (i) Yoke
    (ii) Thrust Plate
    (iii) Spring
    (iv) Lever
    (v) Cup
    (vi) Pin
    (vii) Nut
    (viii) Washer
    (ix) Eye bolt
    (x) Stopper
    (xi) Plate
    (xii) Brake drum
    (xiii) Covers
    (xiv) Housing
    (xv) Lever
3. Idler arm assembly
4. Rear shaft coller (Rear axle bearing inner)
5. Oil Pan Plug
6. Auto Grease Nipple for General Cars—Type: L, M, S.
7. Grease Nipple—Model JIS Guage--Land Type
8. Front spring Inter safe
9. Hub bolt and nut
10. Auto bulbs No. 67, 69, 1176, 53, 57, 1141, 1034. Festoon type: 15×44, 10×31, 8×28.
11. Tie Rod End Rt.
12. Oil Seals
13. Speedo Meter Cable
14. 'Hero' brand Brake Hose.

### Radio and Electronic Parts

1. Transistors and Diodes
2. Rod Antenna
3. I.F. Transformers
4. P.M. Dynamic Speakers 3″ to 5″
5. Push Button Systems
6. Resistors—Carbon
7. Capacitors—Ceramic
8. Electrolytic Condenser
9. Ferrite Magnet

### Bicycle Parts

1. Chains (Split rivet): $\frac{1}{2}''\times\frac{1}{8}''$ and $\frac{1}{2}''\times\frac{3}{32}''$
2. Valves with rubber base
3. Long Chain
4. Chain Wheel—wheels of Raleigh of different sizes
5. B.B. Shell Malleable (Raleigh and Hercules type)
6. Side Stand 26″ or 28″
7. Free Wheel 18T (Half and full balls)
8. Front and Rear Hub
9. Spokes and Nipples
10. Bottom Bracket Axle
11. Bottom Bracket Parts
12. Head Parts
13. Rubber Pedals 4″
14. Gear Crank 5″ and 6″
15. Chain Wheel with Crank Raleigh Pattern
16. Gears
17. B.B. Cups
18. Hub Cone
19. Hub Brakes
20. Carbon Steel Balls
21. Cranks
22. Handle Bars
23. Pedal Axles
24. Crank Cotter Pins

### Miscellaneous Items

1. Saw Frames
2. Vaccum Jug
3. Stainless Steel Cutlery (Spoon, Fork Knife etc.)
4. Cotton Square Towel Bleached
5. Crushed Cow Bone
6. Frozen Raw Shrimp
7. Skinned Animal Toys (Horn and Hoof imitated to reality)
8. Stuffed Animal Heads
9. Printed Pure Silk Stoles
10. Ladies Hand Bags
11. Minerals—Talc Lumps, Felspar, Silica, Gypsum, Diaspose
12. Tanned Sheep Skin
13. Garanite, Travertine and Onyx Slabs
14. Inorganic Bonded Mica Sheets
15. Boy Trousers
16. Pilot Lamps
17. Hand Tools
18. Screws (special types)
19. Cylinder sets for Door Locks etc.

# 4

## 4. RAW MATERIAL ASSISTANCE

I Procedure to Obtain Scarce Raw Materials and Components

II Industries Accorded Priority Treatment for the Import/Allocation of Raw Materials, Components and Spares

III Items, the Import of which is Canalised Through State Trading Agencies

## I PROCEDURE TO OBTAIN SCARCE RAW MATERIALS AND COMPONENTS

Every small scale industry requires different varieties of raw materials. A good number out of these raw materials will be available from indigenous sources while the rest have to be imported from abroad. Again out of those indigenously available, some run into short supply from time to time and measures are immediately taken by the Government to remedy the situation and to ensure equitable distribution as well as to supplement the resources. The details regarding availability of different kinds of raw materials particularly to the small scale industry sector are discussed below:—

### Raw Materials Indigenously Manufactured

(a) *Iron and Steel*—Planning and distribution of iron and steel items from indigenous production is done by the Joint Plant Committee, 18, Rabindra Sarani, Calcutta-1 as per policy laid down by the Ministry of Steel and Heavy Engineering. In accordance with the policy, currently in force, small industrial units for meeting their genuine requirements are to place their indents for steel items either through the State Small Industries Corporations or directly on the Joint Plant Committee. Forms for placement of indents are available from the Executive Secretary, Joint Plant Committee. After the indents are accepted and planned by the Joint Plant Committee, the small units/State Small Industries Corporations may request the State Directorate of Industries for sponsoring their cases with the Steel Priority Committee for allocation, on priority, in the matter of despatch of steel. This has to be done on the proforma prescribed by the JPC indicating the particulars of sales orders, producer's names, etc. Specific recommendations for priority despatch of steel against the sales order of small units/State SSI Corporations will be made by the State Directorate of Industries for consideration by the Steel Priority Committee. The requirements indented through the State Small Industries Corporations will be given weight for despatch by the Steel Priority Committee if those are presented according to the time table and procedure announced by the JPC.

(b) *Raw materials other than iron and steel*—Some of the raw materials coming under this category which are manufactured in the country often run into short supply. Whenever this happens, in order to ensure fair and equitable distribution of available quantities of these materials, the Central Government fixes allocation to the State Directorate of Industries in the form of State quotas. The Directorates of Industries in turn distribute the same to the units located in their State, keeping in view their requirements on the one side and total availability of such raw materials on the other. Some of the raw materials which generally become scarce are:—

1. D.D.T.
2. Ammonium Sulphate.
3. Aluminium Powder Pyrotechnique Grade
4. Urea.
5. Polyethelene.
6. E.C. Grade Aluminium.

7. Antimony.
8. Zinc.

### Import of Raw Materials (including Steel) and Components

In the matter of issue of import licences for raw materials, components and spares, priority treatment is accorded to some industries. The import requirements of such industries are being met on continuous basis by way of issue of replenishment licences. The small scale units engaged in such industries can make an application, claiming replenishment at a time of imported raw materials and components consumed by it in a period not less than three months and not more than six months provided that, on the date of application, the unutilized value of outstanding licences on hand is not more than the C.I.F. value of consumption shown. The unutilized value of licence to be taken into account for this purpose will be the balance value available in the custom copies of the licences reduced by the amount for which firm commitments have been made by opening letters of credit. The firm commitments made with the proposed Industrial Raw Materials Assistance Centre (IRMAC) of the State Trading Corporation will also be counted towards utilisation of the licence for determining the eligibility of the units for making the application. The consumption of imported raw materials and components has to be certified by a Chartered Accountant or Cost Accountant (in practice) or the sponsoring authority concerned in the prescribed proforma appearing in Appendix 2 of the Red Book (Volume I).

No last date is prescribed for submission of an application during the licensing period. A unit can apply for licences any time indicating the consumption of imported raw materials and components as indicated above. The small scale units which have been granted import licences earlier have to submit their applications direct to the regional licensing authorities concerned and not through the sponsoring authorities.

In the case of units engaged in industries not in the priority group, import licences on repeat basis will be granted after showing the utilisation of previous set of licences to the extent of 90 per cent, by way of opening of letter of credit or by making firm commitment with the proposed Industrial Raw Materials Assistance Centre (IRMAC) of the State Trading Corporation or 60 per cent by way of actual importation or by way of supplies drawn from IRMAC or 70 per cent by way of shipment of goods.

Such small scale units are also to submit their applications direct to the regional licensing authorities concerned and not through the sponsoring authorities on an annunal basis after utlising the previous set of licences to the extent stated above. There is no last date for submission of applications during the licensing period.

Units which did not receive any import licence for raw materials and components during the two preceding licensing periods *i.e.* April, 1968—March, 1969 and April, 1969—March, 1970 and which have either had the requisite machinery installed or have made firm arrangements for machinery and premises and power supply, where necessary, will be treated as new units under the import policy.

The import entitlement of new small scale industrial units in priority industries is linked with their investment on machinery and equipment. It will be governed by the formula of 100 per cent of the value of machinery and equipment installed in respect of Chemicals, Drugs and Medicines and Pesticides Formulations industries, 70 per cent in the case of Electronic Components industries and 30 per cent in the case of engineering and other industries with a ceiling of Rs. 75,000.

The ceiling has been raised from Rs. 50,000 to Rs. 75,000, in the new import policy as a measure of import liberalisation. Another provision that has been made is that the existing units will have the facility to claim import licences as new units if they find it more advantageous.

New units have to submit applications for import of six monthly requirements of raw materials and components during April, 1970—March, 1971 licensing period. The first application is to be made during the first half of the licensing period and the second in the latter half of the licensing period. Both the applications are to be sent through the sponsoring authority concerned *viz.* The State Directorate of Industries and there will be no last date for the submission of such applications.

In the case of proposed units (*i.e.*, those units which have made firm arrangements for machinery, premises and power supply, where necessary) the sponsoring authority will recommend a licence against the second application only after the unit has gone into production.

New small scale units in the non-priority group of industries will be getting import licences for raw materials and components to the extent of 30 per cent of the value of machinery and equipment installed under the current import policy. Here also the upper limit which used to be Rs. 50,000 has been raised to Rs. 75,000 now. The new small scale units in this category are to make out their import applications for raw materials and components on an annual basis to the licensing authorities concerned through the sponsoring authorities concerned *viz.* the State Directorates of Industries. Proposed units are, however, to apply on half yearly basis. The second application by such units during the licensing period is to be made after utilising the licence(s) issued against the first application upto the specified extent. Both the applications by the proposed units are to be sent through the sponsoring authorities concerned but the sponsoring authority will recommend a licence against the second application only after the unit has gone into production.

**Import of Spare Parts**

Small scale units engaged in the priority industries are allowed to submit applications for the import of spare parts on annual basis to the licensing authorities direct any time during the licensing period. Such licences will be valid for the import of permissible spare parts required for the plant, machinery and equipment installed or used in the licence holder's factory.

In the case of spare parts appearing in Appendix 3 of the Red Book (Vol. I) the imports will not be allowed for a total value exceeding 7½ per cent of the licence subject to maximum of Rs. 1.5 lakhs within the overall value of the licence, the import of single item not exceeding Rs. 2,000. However, if the party desires to import such spare parts in excess of the prescribed value limit he has to make the application through the sponsoring authority concerned and has to obtain a specific endorsement on the licence to this effect by furnishing a list of such items.

In the non-priority sector, the small scale units are not to submit a separate application for the import of raw materials and components. In other words, they have to submit a consolidated application for the import of raw materials and components and spare parts.

As in the case of priority industries such licences will be valid for the import of permissible spare parts only. In the case of spare parts appearing in Appendix 3 of the Red Book (Vol. I) the imports will, however, not be allowed for a total value exceeding 7½ per cent of the value of the licence, subject to a maximum of Rs. 15,000 within the overall value of the licence, the import of a single item not exceeding Rs. 1,000. The party desiring to import such items in excess of the value limit as indicated above has, however, to apply for specific endorsement on the licence to this effect through the sponsoring authority concerned by furnishing a list of such items.

In addition to the above provisions, the facility for grant of emergency licences for spare parts to meet sudden breakdowns will continue to be available to actual users as per rules and procedure given in the ITC Hand Book of Rules and Procedure, 1970.

**Import through STC and MMTC**

There are a number of items of raw materials which are not allowed to be imported direct by users but are imported by the State Trading Corporation and the Minerals and Metals Trading Corporation of India for distribution to industrial units both large and small.

These items were earlier being released to the small scale units on the basis of recommendations made by the State Directorate of Industries but as per procedure in force, the release will now be made against release orders issued by the port authorities. The procedure for the issue of release orders is the same as for the issue of import licences.

Besides the above canalised items, the STC also imports material for small scale units on *ad hoc* basis to supplement the imports through actual users licences. For allocation of these materials to the State, ceilings are fixed by the STC on *pro rata* basis as per their demand. The States later make recommendations to the STC in favour of individual units within the ceiling.

**IRMAC**

The Industrial Raw Materials Assistance Centre has been set up for rendering special assistance to units who have small licences but find it difficult to import the materials on their own. The Centre keeps stocks of important raw materials which would be released to the industrial units against import licences held by them.

## II INDUSTRIES ACCORDED PRIORITY TREATMENT FOR THE IMPORT/ALLOCATION OF RAW MATERIALS, COMPONENTS AND SPARES

1. Motorcycles.
2. Scooters.
3. Bicycles and bicycle parts.
4. Mopeds.

5. Agricultural tractors.
6. Agricultural machinery and implements.
7. Pumps.
8. Fertilizers.
9. Pesticides.
10. Basic metal—iron and steel, copper, aluminium, zinc and lead.
11. Industrial and mining machinery.
12. Iron and steel castings, forgings, pipes and structures.
13. Internal combustion engines.
14. Machine tools and accessories.
15. Workshop machinery and equipment other than machine tools.
16. Small tools including cutting tools, power tools and other workshop tools.
17. Coated and bonded abrasives and polishing wheels.
18. Industrial furnaces.
19. Welding electrodes.
20. Ball and roller bearings.
21. Transformers, switchgears, motors, generators, power capacitors, rectifiers, relays and electric stampings.
22. Electric cables and wires.
23. Storage batteries, dry batteries.
24. Electronic components.
25. Construction and earth moving equipment.
26. Cranes and hoist blocks.
27. Industrial fasteners.
28. Wire ropes.
29. Scientific and industrial instruments.
30. Cement.
31. Organic and inorganic heavy chemicals including lead oxide, white lead, zinc oxide and titanium dioxide.
32. Fine chemicals.
33. Pulp, paper and newsprint.
34. Synthetic rubber.
35. Tyres and tubes.
36. Industrial explosives.
37. Industrial gases.
38. Drugs.
39. Medical and surgical equipment and appliances.
40. Electro-medical and X-Ray equipment.
41. Refractories, fire bricks and insulators.
42. Commercial vehicles including jeeps and three wheelers.
43. Automobile ancillaries.
44. Trawlers, dredgers and fishing boats.
45. Leather and leather goods.
46. Optical and laboratory glass and glass wool.
47. Jute textiles.
48. Tea.
49. Coffee.
50. Canned and preserved fish.
51. Sanitary cans.
52. Paints and varnishes and enamels.
53. Man-made fibres.
54. Matches.
55. Telecommunication equipment.
56. Wagons.
57. Industrial refrigeration equipment.
58. Sugar.
59. Cotton textiles.

## III ITEMS, THE IMPORT OF WHICH IS CANALISED THROUGH STATE TRADING AGENCIES

| S.No. and Part of I.T.C. Schedule | Description | Agency | System of Licensing |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| Part II | 1. Platinum. | MMTC | Release orders to be issued by Licensing authorities. |
| 177 (a)(i) | 2. Palladium | MMTC | |
| Part III | Sod. Nitrate. | STC | |
| I(a) a-B | Aniline Oil | STC | |
| Part IV | | | |
| 38 | Copra | STC | D.I. sponsoring authority |
| 41 | Hops | STC | Licensing authority |

| 1 | 2 | 3 | 4 |
|---|---|---|---|
| 60a | Mutton Tallow | STC | D.I. |
| 61(a) | Soyabean oil | STC | |
| 61 (b) | Palm oil | STC | |
| 80 (a) | Powdered milk | Indian Dairy Corp. | Licensing authority |
| 87,109 | 1. Sulphadimide | STC | Licensing authorities |
| | 2. Amido Pyrine | STC | |
| | 3. Analgin | STC | |
| | 4 Piperazine and its salts | STC | |
| | 5. Phenobaritone | STC | |
| | 6. Vitamin $B_1$ | STC | |
| | 7. Vitamin $B_2$ | STC | |
| | 8. Fobi Acid | STC | |
| | 9. Chloramphenicol | STC | |
| | 10. Streptomycin Sulphate | STC | |
| | 11. Sulphathizole | STC | |
| | 12. Sulphadilazine | STC | |
| | 13 Sulphamethazine | STC | |
| | 14. Tetracycline | STC | |
| 116 | 35 mm raw stock (whether black or white or colour) | STC | |
| 122 | Graphite | | |
| 172 | Raw silk | Central Silk Board | Licensing authorities. |
| 177 | Nylon yarn and threader other than indl. Nylon Yarn | STC | Sponsoring authority. |
| 266 | Mercury | MMTC | Licensing authorities. |
| 302 | X-Ray films | STC | Sponsoring authorities |
| Part V | | | |
| 22,31 | 1. Ammonia Nipate | STC | Licensing authorities |
| | 2 Cresylic Acid | | |
| | 3. Formic Acid | | |
| | 4. Dode clybenzane | | |
| | 5. Pentacrythritol | | |
| | 6. Tartaric Acid | | |
| | 7. Meta Aminophenol | | |
| | 8. Urea (Chem. Grade) | | |
| | 9. Cyropyridine. | | |
| 25a | Non-processed elemental/Non-Refined recovered sulphate | MMTC | to All by MMTC |

| 1 | 2 | 3 | 4 |
|---|---|---|---|
| 34-37e | Titanium Fiocifr Ti02 .. | STC | Licensing authorities |
| 34-37f | Lithophane .. .. | STC | |
| 40(a) | Rock Phosphate Minhol Phosphate | MMTC | MMTC to All |
| 40(b) | Chibal; Nifidi .. .. | STC | Licensing authorities |
| 40 (c) (i) | Muriate of Potash Chloride | MMTC | MMTC to All |
| (ii) | Other than Indl. Grade. | | |
| 40(d) | Sulphate of Potash .. .. | MMTC | |
| 40 (g) | Sulphate of Ammonia .. | MMTC | |
| | Urea (fertiliser grade) .. | MMTC | |
| 42(a)(i) | Cookwood .. .. | STC | Licensing authority |
| 47 | Wool raw and Wool tops inc: waste, shoddy wool & rags. | STC | Sponsoring authority |
| 101-D | Cellulose N. sheets and flats | STC | Licensing authority |
| 116(i) | Melamini Pur .. .. | STC | |
| 116(v) | Acrylic Resin .. .. | STC | |
| 122(ix) | Cryolite .. .. | STC | |
| 122(xv) | All synthetic non-cellulose fibres including polyster fibres. .. | STC | Sponsoring authority. |
| 122 XXV | 1. Polypropylene .. .. | STC | Licensing authorities |
| | 2. Nylon moulding powder | STC | |
| Item No. 12 Schedule C in Appendix 41. | Stainless Steel (for non-Priority Industries other than those for whom there is a ban on import of this item under A.U. policy.) | MMTC | Licensing authorities. |
| Item 12 Schedule D App. 41 | B.P. Sheets either in Coils or in cut length for drum, barrels. | Hindustan Steel Ltd. | Do. |
| Item 19 Schedule D App. 41 | Tinplate for manufacture of open top sanitary cases. .. | Do. | Do. |
| 43-A/I<br>44(a)/I<br>45(a)/I<br>47(I)<br>48 I & 13/II) | Non-ferrous metals .. ..<br>Lead, Zinc, Tin<br>Nickel and Aluminium. | MMTC | Do. |

# 5

## 5. MACHINERY ASSISTANCE

I Procedure for Import of Capital Goods in respect of Industries in the Small Scale Sector

II Procedure to Obtain Machinery on Hire Purchase Basis from NSIC

III Scheme for Providing Foreign Currency Loans to Small Concerns Operated by Industrial Credit and Investment Corporation of India

## I PROCEDURE FOR IMPORT OF CAPITAL GOODS IN RESPECT OF INDUSTRIES IN THE SMALL SCALE SECTOR

Capital Goods for the purpose of import licensing consist of items like plant and machinery required for the purpose of new installation as well as for replacement or for the expansion of the existing industries.

The procedure followed in respect of import applications for Capital Goods from small scale units can be broadly divided into two parts:—

(a) Procedure in respect of import applications exceeding Rs. 8,000/.

(b) Procedure in respect of import applications upto Rs. 8,000.

### Procedure in respect of Applications for Value Exceeding Rs. 8000

The following procedure is being followed in respect of import applications for value exceeding Rs. 8,000.

### State Level

The applicant sends his application to the State Director of Industries concerned on the prescribed form 'E' with seven copies of the list of items sought to be imported. The application is addressed to the Chief Controller of Imports & Exports while submitting the application, the applicant is required to furnish certain documents as well as information of the following nature:—

1. IVC Registration/Exemption number.
2. Treasury Receipt towards the payment of the requisite application fee on the value applied for.
3. In the case of application from small scale units where the equipment is required for replacement purpose, a certificate from the Small Industries Service Institute of the concerned State to the effect that the existing machinery has become obsolete and its replacement is inescapable, is to be furnished.
4. End-product for the manufacture of which the machinery is sought to be imported.
5. Value of the machinery sought to be imported (separately for each item).
6. List of existing machinery along with the value.
7. Period for which the case relates.
8. Detailed specifications/illustrated leaflets/literature of the machinery.

From the Office of the Director of Industries who is the sponsoring authority, an acknowledgement-cum-deficiency letter is sent to the applicant stating deficiencies in the application, if any. The applicants are required to make up the deficiencies or furnish further information as may be necessary within a specific time limit failing which their applications are liable to be recommended for rejection.

Complete applications in which the required information had been furnished by the applicant are examined by the State Director of Industries or Regional Officers from the point of view of essentiality of the import. If the sponsoring authority does not consider the import of item(s) essential, the application is forwarded to the Chief

Controller of Imports & Exports recommending rejection straightaway. A gist of such recommendation is also communicated to the applicant concerned. In case of applications which after necessary scrutiny and examination are considered essential for import, the Director of industries forwards them to the Development Commissioner (SSI) together with his recommendation.

**Central Level**

1. *Development Commissioner (SSI)*

Applications recommended by the Director of Industries to the DC(SSI) for import of capital goods in respect of small scale units are acknowledged by the DC(SSI) to the party under intimation to the State Director of Industries concerned. On receipt of the requisite information from the State Director of Indistries/Small Scale Units, the applications are processed by the technical Officers in the office of the DC(SSI). The recommendations of the technical officers of the DC(SSI), together with the gist of particulars relating to the import of capital goods particularly in respect of items sought to be imported, its value, the country of origin, and product etc. are incorporated in the agenda which is put up to the SSI Committe for their consideration. The SSI Committee consists of the representatives of DGTD and DC(SSI). It examines the applications from essentiality as well as indigenous angle and in case it is satisfied with the essentiality and desirability of the items sought to be imported it recommends the case. In case, the Committee finds that the items sought to be imported are available in the country, the DC(SSI) forwards the application to the CCI&E recommending rejection and indicating the names and addresses of indigenous manufactures. Such of the items which are not available indigenously and the import of which is cleared by the SSI Committee, the DC(SSI) forwards the application to the CCI&E with recommendation for the issue of a licence. The essentiality aspect of the item sought to be imported is also considered while rejecting/recommending import of capital goods. The State Director of Industries as well as the applicants are informed of the position by the DC(SSI) as per the decision of the SSI Committee.

2. *Chief Controller of Imports Exports*

Applications are further considered in the Office of the CCI &E on the basis of the recommendation of the SSI committee for issue of import license.

**Procedure in respect of Import Applications Valued upto Rs. 8,000**

In respect of applications from small scale units for import of machinery and machine tools valued upto Rs. 8,000 the following procedure is followed

The applicant is required to submit his application to the Regional Licensing authority concerned through the sponsoring authority in the prescribed form 'B' in duplicate with 7 copies of the list of goods proposed to be imported. The application is addressed to the JCCI & E concerned but routed through the sponsoring authority of the State concerned. On receipt of the application, the sponsoring authority scrutinises the details furnished by the party and in case it is found that the applicant has not furnished the required particulars, an acknowledgement-cum-deficiency letter is issued to the party advising him to make up the deficiencies within a stipulated time failing which the application for import of capital goods is liable to be recommended for rejection.

After the Directior of Industries is satisfied with the essentiality and desirability of import of items sought to be imported by the applicants he recommends to the Regional Licensing authority for grant of licence. The value of import licences issued in such cases are debited to the monetary ceiling earmarked for import of raw materials in respect of small scale sector. The import of such items of machinery and machine tools which are not permissible under the policy in force, the sponsoring authorities are required to refer the application to the DC(SSI) for indigenous clearance before making a recommendation to the licensing authority for grant of a licence. Such applications are placed before the SSI Committee after they have been examined by the technical officers of the DC(SSI). The recommendations for the grant of licence or recommending rejections are conveyed to sponsoring authority concerned as well as the regional licensing authority under intimation to the party.

## II PROCEDURE TO OBTAIN MACHINERY ON HIRE-PURCHASE BASIS FROM NSIC

(*Prepared by the National Small Industries Corporation Ltd., New Delhi*)

**Let Us Know Each Other**

You may have heard about us and our hire-purchaes scheme but probably not well enough. This is to explain ourselves a little.

India needs industries. Considerable entrepreneurial talent is available in the country which with proper assistance can promote industrial enterprise. Our objective is to tap this talent so as to usher in a large number of small industrial units all over the country.

We equip small industries with machines, but we do not lend money. Our terms of business have been designed to suit your needs and pocket and we keep in mind the fact that you are a small industrialist who has plenty of ideas but not enough capital. We do not take any security or mortgage for the assistance that we render.

Every industry is 'small' so long as its investment in machinery is below Rs. 0.75 million. We can give you equipment provded the addition of these machines does not take the total value of equipment beyond the above limit.

**Before You Apply**

Before applying to us for machinery on hire-purchase, please check that:

The industry you wish to start has scope for development. You may consult the Director of Industries and the Small Industries Service Institute located in your State, in the selection of industry, raw materials and machinery. These officials will also inform whether the industry requires approval of other agencies like Textile Commissioner, Drugs Controller, Coir Board etc. If such approval is necessary, that also is to be obtained.

There exists sufficient demand for the items you propose to manufacture and that you would be able to sell them without difficulty.

You obtain a feasibility report and/or a model scheme from the Small Industries Service Institute.

Adequate factory accommodation is available.

You can obtain adequate finances to run the industry. Check up how much working capital is necessary. You can command the resources.

Adequate power is available.

There would not be any difficulty in the procurement of raw materials. Consult Director of Industries of your area in this regard.

Technically trained personnel are available.

You have yourself attended one of the courses organised by the Small Industries Service Institute on management principles and practices.

Running an industry means management of resources of men, materials, machines and money. You risk your capital. You put in your time and efforts. To see that these are not wasted, make a sound judgement in selecting your industry and arrange afor other pre-requisites. It will be in everyone's interest.

Also, take a decision whether you are going to run the unit as a proprietary, partnership or a limited concern. Any change of structure which you may make after the application is made will involve delay and additional expenditure if NSIC is to consider the change.

**When You Apply**

Please

Study our terms and conditions carefully and understand them.

Fill in every column in the application form with the appropriate answers.

Fill in our special questionnaire in case the value of machines applied for exceeds Rs. 0.1 million.

Give specifications of the raw materials required, both indigenous and imported, for running the machines, the annual requirement and value.

Attach Partnership Deed in the case of a partnership firm and Articles and Memorandum of Association in the case of a joint stock company.

Attach Income Tax Clearance Certificate, in case you are assessed for Income Tax, or a non-assessability certificate. Such certificates should accompany all applications for Rs. 50,000 and above.

Attach a declaration with regard to your total fixed assets according to copy given at bottom of page 5 of the application form and obtain endorsement of the Director of Industries for demands exceeding Rs. 0.4 millions

Give all other information which may be asked for.

Attach quotations with illustrated leaflets of the machines required. See also that they are for graded machines in case gradation is available indigenously.

Attach a declaration regarding collaboration with foreign firm, if there is any.

An incomplete application causes delays. It creates problems for us and, of course, a lot of precious time is wasted.

When we receive your application from the Director of Industries, we issue you an initial acknowledgement. We have to check up your application for all particulars, verify records and ensure that you have completed all formalities.

We next place your case before a specially constituted Committee which meets twice a month and the decision of the Committee is conveyed soon thereafter.

### How You Select Equipment

After conveying to you our acceptance of the application, we make you an offer to deposit earnest money as indicated in our terms and conditions. This action will be delayed if the quotations attached with your application are defective in so far as

they are not from the manufacturers or their selling agents.

they are not for graded machines (in cases where graded machines are manufactured in the country)

suppliers have not agreed to our terms of payment.

In all these cases we shall have to write to the suppliers (and sometimes to you) for obtaining necessary information.

When we have an acceptable quotation for the equipment required by you, we refer the quotation to you. *Please*

Do not change specifications of the machines from those given in the quotation and in your application.

Deposit earnest money with our Regional Office in the form of a bank draft and intimate the same to us. Earnest money may be remitted partly by draft and partly by bank guarantee encashable before delivery of machines in the ratio 1:3.

Do not make any short remittance of the earnest money as this will further cause delay in arranging supplies.

### And We Place Orders

After we receive intimation that you have paid the earnest money, we place purchase orders on the suppliers for the machines to be supplied to you. Let us tell you a few things about the supply orders. For imported machines we first apply for an import licence and then place the purchase orders on the suppliers.

For indigenous equipment, we place supply orders only on manufacturers or their sole agents. Whatever discount is received is passed on to you. Our aim is to see that you pay the minimum price for the equipment.

After this your dealings will be with our Regional Office.

Concerning imported equipment there are a few difficulties which it is well for you to know. These purchases are made with foreign exchange received through the Government. We cannot forecast with certainty the amount of such foreign exchange we may receive in any year or know the countries whose currencies will be availabele to us for imports. These days the 'foreign exchanges' we get are out of loans negotiated by the Government each of which has its special terms for disbursement. The possibility always exists that when the time arrives for issuing an order on your behalf, we are without the necessary exchange. There would thus be a delay till the next allocation is received, and there is always the delay corresponding to the time taken to comply with the formalities of the credit. We shall be keeping you informed of the delays and their likely duration.

### You Sign the Agreement Bond

After the order is placed, and before the machines are ready for delivery, indication of which is given in the order, the suppliers send proforma invoice. The agreement bond is then drawn up which is sent to you for execution. The other documents that accompany the agreement bond are:

1. Insurance Proposal Form.
2. A copy of the Terms and Conditions.
3. Calculation Sheet in duplicate.
4. Details of balance Earnest Money, if any, and amount of sales tax payable.

Please take immediate action to execute the agreement bond, to fill in the insurance proposal form and return them, and to remit the extra payment to make up shortages towards sales tax etc.

The agreement bond spells out the relationship between the Corporation and you as the owners and hirers of machines, and we expect that you will, as we do, honour its provisions.

The calculation sheet gives the instalments due from you after crediting amounts already received from you to your accounts. If you need any clarification get in touch with the Regional Office which is now servicing your application.

The payment of the first instalment starts one year (to the nearest first day of the month) of your receiving the equipment. The responsibility for installing the machines immediately on receipt and starting production is entirely yours. Please do not approach us to postpone instalments for reasons like "Power was not available", "Full capacity could not be reached", "Raw material not made available" and so on. As you were informed earlier, you are to satisfy yourself that these facilities will be available before an application is made, and you are to run the machines as soon as they reach you.

### And Take Delivery of Machines

On receiving these documents our Regional Office issues despatch instructions to the suppliers. Local deliveries are arranged by the suppliers direct to you. If delivery is by truck/train, goods receipt/railway receipt is sent to you with necessary endorsement in your favour to take delivery of the machines. Please ensure the following:

1. Take delivery of the machines as soon as it reaches the destination. (In case of damages or short supply, get the consignment surveyed by an authorised surveyor and report the matter to the insurance company and the supplier under intimation to our Regional Office.)
2. Send a certificate to our Regional Office within fifteen days after taking delivery of the machines to the effect that you have received the machines according to the order. If this certificate is not received in the prescribed time we will assume that the order is fully executed.

You have to maintain the equipment in good working condition.

Please read the instructions carefully for taking delivery of the equipment.

### Some Figures You Should Know

1. *Application Fee**

We charge the following amounts according to our present rules. The prescribed amount should be sent to us by Postal Order/Demand Draft (crossed) in the name of National Small Industries Corporation Limited—payable at State Bank of India, Okhla, New Delhi-20.

If the value of your equipment is

| | | The Fee is |
|---|---|---|
| 1. | Up to Rs. 5,000/- | Rs. 5/- |
| 2. | Rs. 5001 to Rs. 25,000/- | Rs. 10/- |
| 3. | Rs. 25001 to Rs. 50,000/- | Rs. 20/- |
| 4. | Rs. 50,001 to Rs. 1,00,000/- | Rs. 50/- |
| 5. | Rs. 1,00,001 to Rs. 1,50,000/- | Rs. 100/- |
| 6. | Rs. 1,50,001 To Rs. 2,00,000/- | Rs. 150/- |
| 7. | Rs. 2,00,001 to Rs. 2,50,000/- | Rs. 200/- |
| 8. | Rs. 2,50,001 and above | Rs. 250/- |

2. *Value of Machines which We Supply*

Normally no single small scale applicant will be given machinery exceeding in value Rs. 0.55 million c.i.f. if the machinery is to be imported and Rs. 0.4 million f.o.r. if the machinery is to be obtained from indigenous sources; where the application is for both imported and indigenous machinery the f.o.r. price of indigenous machines and landed cost of imported machines should not exceed Rs. 0.65 million in aggregate.

3. *Earnest Money*

The rates are generally:
(of the F.O.R. Cost/Landed Cost)
20% for machines/machine tools
30% for furnaces/boilers
50% for cold storages/ice plants/chemical plants/tyre retreading/canning and electroplating plants etc.
95% for moulds/dies etc.

Period of repayment will be between five to seven years.

*Earnest Money Deposit*: You have to deposit the amount by Demand Draft (crossed) payable to the National Small Industries Ltd. to our Regional Office.

*Delhi Region*
(Delhi, Himachal Pradesh, Punjab, Haryana, Uttar Pradesh, Rajasthan, Jammu and Kashmir)
Draft payable to:
National Small Industries Corporation Ltd.,
Okhla, New Delhi-20.

*Bombay Region*
(Maharashtra, Gujarat, Madhya Pradesh, Goa)
Draft payable to:
National Small Industries Corporation Ltd.,
Prestige Chambers, Kalyan St., Masjid (East),
Bombay-9 B.R.

*Madras Region*
(Andhra Pradesh, Madras, Kerala, Mysore, Pondichery)
Draft payable to:
National Small Industries Corporation Ltd.,
123, Mount Road, Madras-6.

*Calcutta Region*
(West Bengal, Bihar, Assam, Orissa, Manipur, Tripura, Andaman and Nicobar Islands)
Draft payable to:
National Small Industries Corporation Ltd.,
20, British India St.,
7th Floor, Calcutta-1.

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* Rates are subject to changes from time to time. Please confirm from our nearest office.

The exact percentage applicable and the amount to be paid will be indicated in our offer asking you to remit earnest money.

4. *Administrative Charge*

We charge 6% on the landed cost in the case of imported equipment and on F.O.R. price in the case of indigenous equipment. This amount is collected in instalments.

5. *Clearing Charges*

We add 3½% of the C.I.F. price as clearing and forwarding charges in the case of all imported equipment.

6. *Rate of Interest*

We charge interest at 7% on the price less earnest money paid.

If the instalments are not paid, when due, interest at the rate of 12% per annum on such defaulted instalments is to be paid.

7. *Sales Tax*

As these transactions attract sales tax, you are liable for the amount due. Intra-state transactions are governed by the States' Sales Tax Law and inter-state by the Central Sales Tax Rules, if you are registered under them.

*Our Terms of Payment* (to Suppliers)

Elsewhere in this write-up it has been suggested that to avoid delays, the quotations you attach with the application, giving the price and specifications and makers of the machine you choose, should preferably be addressed to the National Small Industries Corporation Limited, New Delhi. The Corporation offers the following terms of payment and unless these are agreed to by the suppliers you choose, purchases from them will not be possible. You may, therefore, advice to suppliers that when they make out the quotations in our name they are to specifically agree and mention so in the quotations that they accept our terms of payment. Their terms are as follows:—

1. *If payment is to be made direct to the foreign supplier by the Corporation:* An irrevocable letter of credit will be opened by us favouring the supplier in his country for the full 100% of the invoice value, subject to 90% being payable on presentation of a full set of negotiable shipping documents and balance 10% within 4 months after the landing date of the ship with the items in India and after our instruction to our Bankers to the effect that the consignment has reached the consignee's end and that the contents have been checked and found in order.

2. *Local Deliveries:* Full payment within 15 days after the receipt of delivery challan duly receipted by the applicants in token of their having received the goods in good condition.

3. *Rail Despatches:* 95% payment will be made within 15 days on receipt of R/R and invoice and balance 5% within 10 days after the receipt of consignment at consignee's end and having been checked and found in order.

Every quotation is to be accompanied by a certificate reading thus:

"The prices quoted are not higher than those quoted to any Government Department or private party. We agree to accept your terms of payment. We also agree to give you a TRADE DISCOUNT OF.......... % on the F.O.B., F.O.R./C.I.F./Ex-Godown price quoted.

## III SCHEME FOR PROVIDING FOREIGN CURRENCY LOANS TO SMALL CONCERNS OPERATED BY INDUSTRIAL CREDIT AND INVESTMENT CORPORATION OF INDIA

1. The scheme would cover foreign currency loans of amounts generally from Rs. 0.1 million to Rs. 0.5 million for the import of capital equipment, to companies originally having gross fixed assets of not more than Rs. 2.5 million. These loans would be provided out of the lines of credit from the International Bank for Reconstruction and Development, Kreditanstalt fur Wiederaufbau as well as the U.K. line of credit presently available to ICICI.

2. These loans will be made available to new as well as established industrial concerns whether they are proprietary, partnership or limited companies.

3. The proposals for the foreign currency loans would generally be sponsored by the local financial institutions and/or banks.

4. ICICI will normally sanction the loan on the basis of an appraisal prepared by the sponsoring institution/bank. Such appraisal may be made on

the basis of an application form/questionnaire which the sponsoring agency normally uses for its own purposes. However, for ready reference we attach a note which specifies the aspects which may be covered in the appraisal.

5. The original application from the clients need not be sent to ICICI but copies of financial institution's/ Bank's appraisal should be sent to the Small Loan Section of ICICI, Bombay, as well as to the Calcutta and Madras Offices of ICICI as appropriate.

6. Bombay, Madras and Calcutta Offices of ICICI will maintain liaison with the sponsoring local institution/bank and will get in touch with them for discussion if found necessary. ICICI Offices will also provide assistance, if required, in appraising the proposals.

7. The loan transaction will be covered by an agreement between the borrower and ICICI.

8. In order to simplify the legal formalities as well as to facilitate speedy utilisation of loans by the borrower, it is proposed that the loans be secured by a guarantee from the sponsoring institution. In special cases, ICICI would also be prepared to conisder security in the form of mortgage/hypothecation of equipment etc. on sharing basis with the sponsoring financial institution/bank.

9. The repayment of the loan would be generally spread over 7 years including a grace period of about 2 years.

10. In respect of undrawn amount of loan, a commitment charge at the rate of 1 percent per annum will be payable commencing from the signing of the Heads of Agreement. The commitment charge will be payable half-yearly.

11. On the amounts drawn from time to time and remaining outstanding interest will be payable half-yearly. The current rate of interest is 8½% per annum.

12. ICICI would look to the sponsoring financial institution/bank for assistance in completion of legal formalities, follow up and recovery of interest and principal amount when due.

13. The borrower will mainly be responsible for obtaining the necessary Government and Reserve Bank clearances for the import of equipment and for availing the foreign currency loans. ICICI will use its good offices to provide assistance in this regard wherever possible.

The above scheme is meant to supplement the existing facilities available to small units for the import of capital goods. To the small borrower this would simplify the process for obtaining loans, and for ICICI, it would provide a further opportunity for joint participation with local financial institutions/ banks.

**Aspects to be Covered by Appraisal of Proposals for Loans to Small Industrial Concerns**

1. Analysis of the past financial accounts and production/sales trends in the case of existing concerns.

2. Assessment of the present and future market for the existing and proposed products of the concern with emphasis on the concern's own operations, its competitiveness based on quality, prices, sales arrangements and other features.

3. Purpose for which the proposed assistance is sought and an examination of adequacy of the existing and proposed facilities (including land, buildings, equipment and services) for the scheme.

4. The existing borrowing facilities available to the concern with details of limits, sources and terms.

5. An assessment of financial requirements for the proposed scheme and other commitments of the concern.

6. How the above requirement is proposed to be met (including assistance sought from ICICI and sponsoring financial institution/bank).

7. Specific advantages expected to be enjoyed and problems (such as those connected with availability of raw materials and skilled labour) that might be encountered by the concern.

Assessment of future cost of production and profitability after taking into consideration these factors.

8. Comments on the Management of the concern.

9. Status of Government consents.

10. Recommendations.

# 6

## 6. FINANCIAL ASSISTANCE

I Small Scale Industries Eligible for Financial Assistance under the SSIDO Programme

II Credit Guarantee Scheme Operated by the Reserve Bank of India

III Liberalised Credit Scheme Operated by the State Bank of India and its Subsidiaries

IV Credit Guarantee Scheme Operated by the National Small Industries Corporation

V Indian Investment Centre

VI Facilities Available under the State Aid to Industries Act

## I SMALL SCALE INDUSTRIES ELIGIBLE FOR FINANCIAL ASSISTANCE UNDER THE SSIDO PROGRAMME

### Foodstuffs

(1) Production of fruit products such as jam, jelly, sauce, pickle, chutney and canning & preservation of fruits and vegetables.

(2) Canning and preservation of meat and fish, Fish curing.

(3) Production of bakery products such as bread, biscuits, cakes and other bakery products including sugar confectionaries.

(4) Production of edible fat and oils (other than hydrogenated oil).

(5) Manufacture of miscellaneous foodstuffs not mentioned above such as breakfast food—cornflakes, vermicelli, etc.

(6) Ice & ice products, aerated water.

(7) Synthetic and brewed vinegar.

(8) Coffee roasting & grinding.

(9) Expellaters for crushing copra.

(10) Cashew industry (procuring and packing in consumer packs).

(11) Manufacture of black tea and tea factory (factory processing black tea).

(12) Manufacture of cattle feed.

(13) Masala grinding industry.

### Textile Miscellaneous

(1) Manufacture of hosiery.

(2) Making of textile garments by mechanised units and readymade garments.

(3) Manufacture of waterproof textile products such as oilcloth, tarpaulin, raincoats, holdalls, etc.

(4) Manufacture of umbrellas.

(5) Manufacture of miscellaneous textile products not covered by above such as buffs required for electroplating, mosquito curtains, hair nets, twine balls, fish nets, etc.

(6) Power loom cloth & clothing.

(7) Paper cone.

(8) Manufacture of tapes, cards, twines, fishing twines in cotton, nylon, plastic and rubber.

(9) Dry cleaning, dyeing, bleaching and processing (service industry).

### Wood and Wooden Products

(1) Seasoning and preservation of timber.

(2) Sawing and Planing of wood.

(3) Manufacture of wooden furniture and fixtures.

(4) Manufacture of structural wooden goods such as beams, posts, doors, windows, etc.

(5) Manufacture of wooden industrial goods other than transport equipment such as bobbins, shuttles, healds, reeds, patterns, wooden components of sewing machines, handles for hammers, picks, etc. battery separators, photoframes, shoe lasts, etc.

(6) Manufacture of plywood, match splints and veneers.

(7) Manufacture of boxes and packing cases.

(8) Manufacture of ammunition boxes and cases.

(9) Manufacture of materials from cork and other allied products.

(10) Finished products out of bamboo.

(11) Manufacture of other wood and allied products such as drawing and surveying instruments, drawing boards, T-squares, set-squares, plane tables, black boards, etc., wooden electrical accessories like switch boards, round blocks, battens, etc.

**Leather and Leather Products**

(1) Currying, tanning and finishing of hides and skins and preparation of finished leather.

(3) Manufacture of shoes and other leather footwear.

(4) Manufacture of leather products such as leather upholstery, suitcases, pocket-book covers, cigarette and key-cases, purses, cash bags, saddlery, whips, belts and other articles.

**Rubber, Petroleum and Coal Products**

(1) Manufacture of rubber footwear.

(2) Manufacture of rubber goods used for industrial purposes such as patching solutions.

(3) Manufacture of all kinds of other rubber products from natural or synthetic rubber including rubber rain-coats.

(4) Manufacture of rubber stamps.

(5) Manufacture of petroleum products such as paraffin, candles, greases, solvents, brake fluids, etc.

(6) Manufacture of coal products other than coal-tar and coke and coal-tar products such as benzene, cresote, naphthalene, etc.

(7) Rubber latex processing industry.

(8) Tyre retreading and resoling unit.

**Chemicals and Chemical Products**

(1) Manufacture of basic industrial chemicals such as acids, alkalies and salts e.g. ammonia, alum, manganese salt, nickel sulphate, saltpetre, etc.

(2) Manufacture of dyes, paints, colours and varnishes.

(3) Manufacture of fertilizers such as bone-meal.

(4) Manufacture of matches.

(5) Manufacture of fire works.

(6) Manufacture of medicines including homeopathic medicines, pharmaceutical preparations, perfumes, cosmetics and other toilet preparations except soap.

(6A) All the three systems of indigenous medicines i.e. Ayurvedic, Sidha and Yunani.

(7) Manufacture of soap and other washing and cleaning compounds.

(8) Manufacture of turpentine, synthetic resin and plastic products.

(9) Manufacture of refined salt, black salt, etc.

(1) Salt manufacturing units, both individual and co-operatives.

(11) Manufacture of other chemicals and chemical products not covered above such as metal polish, boot polish, inedible oils, disinfectants, insecticides, fungicides, ink, glue, gelatine, etc.

(12) Solvent extraction.

(13) Slivering and polishing of mirrors.

(14) Manufacture of distilled water for batteries.

(15) Brewery.

(16) Manufacture of plumbago powder (but on low-priority).

(17) Mica mining and mining & mineral industries.

**Non-Metallic Mineral Products other than Petroleum and Coal**

(1) Manufacture of structural clay products such as bricks, tiles, blocks, etc. (brick kiln also).

(2) Manufacture of cement products such as hume pipes, cement tiles, etc.

(3) Manufacture of stone-wares, slate and slate products, etc.

(4) Manufacture of plaster of paris and its products.

(5) Manufacture of earthenware and earthen pottery.

(6) Manufacture of chinaware and crockery and washing of chinaclay.

(7) Manufacture of porcelain and porcelain products including electrical insulators, sanitaryware, etc.

(8) Manufacture of glass bangles and beads.

(9) Manufacture of glass apparatus such as thermometers, surgical and medical glass apparatus and appliances.

(10) Manufacture of glass and glass products except optical and photographic lenses and glass products not covered above such as glass, bottles, phials, glass ampules, pressed and tableware, chimneys, globes, neonsigns, etc.

(11) Crucible making and manufacture of refractories.

(12) Marble processing industries.

(13) Boulder crushing industry (on low priority).

**Basic Metals and their Products except Machinery and Transport Equipment**

(1) Manufacture of structural steel products such as M.S. rounds, light sections of channels, angles and flats.

(2) Manufacture of iron and steel furniture and other sheet metal products such as safes, conduit pipes, buckets, drums, trunks, bodies of typewriters, duplicators, letter boxes, sign boards, etc.

(3) Manufacture of iron, brass and bell metal products such as gates, grills, trusses, postal seal and other foundry products.

(4) Manufacture of aluminium products.

(5) Manufacture of metal products (other than of iron, brass, bell metal and aluminium) such as tin containers, torch light shells, lanterns, cigarette cases, etc.

(6) Manufacture of sundry hardwares excluding those covered by (2) and (3) including agricultural and tea-garden implements, hand tools, builders' hardware, bolts, nuts, rivets, washers, screws, dog spikes, G.I. pipes, hinges, tower bolts, door handles, knobs, brackets, hasps and staples, wood screws, etc. Wire products—nets, meshes, barbed wire, wire ropes, wire brushes, wire chain, panel pins, nails, staples, locks, beam scales, weights and measures, cauldron, cutlery, etc.

(7) Enamelling, galvanising, plating (including electroplating), polishing and welding of metal products.

**Machinery of all kinds other than Transport and Electrical Equipment**

(1) Manufacture and assembly of machinery, equipment and parts (other than electrical and textiles) such as sewing machines, knitting machines, etc. equipment for manufacture of pharmaceuticals, confectionery, bricks and printing, etc.

(2) Manufacture and assembly of prime movers and parts (other than electrical equipments) such as diesel engines, oil engines and parts.

(3) Manufacture of machine tools.

(4) Manufacture of textile machinery and accessories and parts including hand-loom, ambar charkha, other types of spinning wheels, etc.

(5) Manufacture of electrical machinery and equipment such as small power transformers, motors, industrial furnaces, generators, etc.

(6) Manufacture of electrical lamps and fans.

(7) Manufacture of all kinds of batteries.

(8) Manufacture of insulated wires and cables.

(9) Manufacture of electronic equipments such as radio receivers and parts, microphones, loudspeakers, chokes, transformers for radios, etc.

(10) Manufacture of electric machinery, apparatus and appliances not specified above such as control gears and measuring instruments—ammeters, glavanometers, voltmeters, etc., switches, plugs, distribution boxes etc., domestic electric appliances—heaters, cookers, ovens, churners, washing machines, irons, etc.

**Transport Equipment**

(1) Manufacture of tramway and other rail road equipment such as signal equipment, sleepers, single and double wheel burrows, platform, trucks, hand carts, sack carts, trailers, etc.

(2) Manufacture of motor vehicle engine parts and accessories such as piston and piston rings, leaf-springs, oil seals, pulleys, gudgeon pins, hydraulic jacks, etc.

(3) Manufacture of bicycles and tricycles and accessories such as saddles, seat frames, gears, etc.

(4) Building of boats.

(5) Manufacture of air transport equipment and accessories.

(6) Manufacture of other transport equipment not covered above such as animal-drawn and hand-drawn vehicles.

(7) Auto servicing and repairing workshop.

**Miscellaneous Manufacturing Industries**

(1) Manufacture of small optical instruments and opthalmic goods and photographic equipment and supplies.

(2) Manufacture of scientific, medical and surgical instruments and equipment and supplies.

(3) Assembly of clocks.

(4) Manufacture of musical instruments.

(5) Manufacture of stationery articles not covered elsewhere such as pencils, penholders, fountain pens, chalks, crayons, etc.

(6) Manufacture of sports goods such as footballs, basket balls, rugby balls, polo balls, cricket balls, hockey balls, hockey sticks, cricket bats, tennis, badminton and squash rackets, leather gloves, shuttlecocks, sporting foot-wear, leg-guards, carrom boards, bridge tables, ping-pong tables, billiards tables, etc.

(7) Manufacture of goods not elsewhere classified such as fire-fighting equipment, mechanical and wooden toys, plastic buttons, pearls and domnut, mirrors, spectacle frames, umbrella ribes, domestic and industrial brushes, cardboard boxes and cartons, alkathene bags, abrasives, basket making, etc.

(8) Printing press—book binding.

(9) Tapioca powder & starch and manufacture of potato and sweet potato starch.

(10) Beedi making, chewing tabacco and cigar making, tobacco processing industry.

(11) Agarbatti making.

(12) Converting manure (cotton waste dust) into waste cotton.

(13) Converting of rags into pure cotton.

(14) Seat cushions and glares for scooters and cars.

(15) Mineral wool.

(16) Balanced feed for cattle and poultry.

(17) Healds for handloom industry.

(18) Coir baling industry.

(19) General engineering workshops.

(20) Manufacture of card board cartons, both plain and corrugated.

(21) Manufacture of paper bags.

(22) Coir rope industry.

(23) Coconut shell powder industry.

(24) Waste cotton plant—rope manufacturing.

(25) Manufacture of industrial gases including carbon dioxide gas.

(26) Manufacturing of surgical cotton.

(27) Documentary film production (i.e. sound recording studio, but on low-priority).

(28) Assembly of air-conditioners.

(29) Servicing of tractors.

## II CREDIT GUARANTEE SCHEME OPERATED BY THE RESERVE BANK OF INDIA

### Introduction

The Credit Guarantee Scheme for the guarantee of advances granted by banks and other credit institutions to small scale industries was introduced by the Government of India on July 1, 1960 with the object of enlarging the supply of institutional credit to the small scale industrial sector by offering protection against any possible losses. The Reserve Bank of India has been entrusted with the administration of the scheme as the agent of the Government of India and has been designated as the 'Guarantee Organisation' for the purpose. Initially introduced in 22 selected districts as an experimental measure, the scheme was extended to cover 4 more districts in January, 1961 and an additional 26 districts in June, 1961. The scheme was placed on a permanent basis and its area of operation extended to cover the entire country with effect from January 1, 1963.

### Objective of the Scheme

The objective of the scheme as stated above is sought to be achieved

(a) by granting a degree of protection to the lending institutions against possible losses in respect of their advances to the small scale industrial units (the scheme provides for sharing of the losses between the lending institutions and the Government of India in a prescribed manner) and

(b) by providing an element of refinancing in the scheme, viz., a guarantee under the scheme may be involved by the lending institution before enforcing the securities, if any, held against the advance or resorting to legal remedies against the borrower for recovery of dues, and the claim is required to be paid within 30 days of its receipt by the Guarantee Organisation. (This provision assures the lending institutions that their liquidity would not be adversely affected subject to the ceiling on payment of claim prescribed under the scheme—on account of their advances to small scale industries proving to be sticky or even doubtful of realisation).

With a view to removing procedural delays on account of scrutiny of individual applications for guarantee cover, this scheme has been streamlined with effect from 1st Feb. 1970, when it was converted into an automatic guarantee scheme. The participating credit institutions are now required to enter into an agreement with the guarantee organisation offering all their eligible advances to small scale industries for guarantee cover under the Guarantee Scheme, for availing of this facility of automatic cover. Under the modified scheme all advances to small scale industries by such institutions as have executed the agreement would be deemed as covered under the scheme from the date of the first disposal of the advances.

### Salient Provisions of the Scheme

*Approved Credit Institutions*

Credit institutions specified as eligible for seeking facilities under the scheme come under the following groups:

(i) State Bank of India and its Subsidiaries.

(ii) Scheduled banks

(iii) Non-scheduled banks
(iv) State Financial Corporations (including Madras Industrial Investments Corporation Ltd.)
(v) State cooperative banks
(vi) Central cooperative banks

*Advances Eligible for Guarantee*

An advance to be eligible for guarantee under the scheme should have been sanctioned to a small scale industrial undertaking, i.e. one engaged in the manufacture, processing or preservation of goods. The scheme has recently been extended to automobile servicing and repairing workshops and custom service units having investment in plant and machinery (original cost) not exceeding Rs. 0.75 million. Advances for purely trading purposes will not be eligible for guarantee. For the purpose of the scheme, a small scale industrial unit has been defined, since March 1967, as one, the original cost of whose investment in plant and machinery does not exceed Rs. .75 million.

All advances which are sanctioned for acquiring fixed assets or equipment or for providing working capital and are repayable on demand or on the expiry of a fixed period are eligible for guarantee. Thus, advances, in the form of a loan repayable on demand or on the expiry of a fixed period, a cash credit, an over-draft or purchase and discount of bills are eligible for guarantee under the scheme.

*Period of Guarantee*

Under the modified scheme which has come into effect in Feb. 1970, guarantees given to other lending agencies for loans availed of by small scale industries from them have become eligible for cover.

*Extent of Guarantee*

The scheme provides for the sharing of losses incurred by the lending institutions in respect of their advances to small scale industries, between these institutions and the Government of India in a prescribed manner. No ceiling has been prescribed on the amount of advance that may be guaranteed but the maximum amount of loss that may be recovered from the Government against a guarantee in respect of any one advance, is subject to this ceiling that the Government's share of the loss is prescribed as 75% of the amount in default.

*Guarantee Fee*

The guarantee fee has been prescribed as one-tenth of one per cent per annum on the amount of limits sanctioned. This fee will be applicable only to those institutions which have agreed to offer all their eligible advances to small scale industries for cover under the scheme. The other institutions would be charged at the rate of one-fourth of one per cent on the limits sanctioned.

The gurarantee fee is recoverable on a quarterly basis. On term loans the fee will be computed on the balance outstanding, while on all other credit facilities, fees will be charged on the basis of limits sanctioned and in face of the balance outstanding whichever is higher.

*Procedure for Issue of Guarantee*

Under the present scheme the participating credit institutions need not make, in advance, applications for guarantee cover in respect of their advances to small scale industries, as all of them are deemed as automatically covered. The credit institutions, however, are required to submit to the Guarantee Organisation quarterly statements of their eligible advances to small scale industries.

The Guarantee Organisation leaves the discretion regarding terms and conditions of advance to the credit institutions, the responsibility of ensuring that the credit is utilised for the purposes for which it is intended would, however, devolve on the credit institution. It is, however, expected that as a result of the availability of the guarantee as well as the liberal terms on which refinance is provided by the Reserve Bank and the Industrial Development Bank of India, the credit institutions will, in turn, liberalise their lending criteria. Accordingly it would like the credit institutions to place greater emphasis on factors such as the competence and integrity of the management of the borrowing unit and the feasibility of the project than on such conventional criteria as security, margin, etc. In fact, the guarantees are extended to cover unsecured advances to borrowers having entrepreneurial skill provided the credit institution is willing to finance them on such terms.

*Invoking of Guarantee*

The only condition to be satisfied for invoking a guarantee is that the guarantee should be in force at the time of default by the borrowing concern.

After receipt of a claim, the credit institution should forthwith stop further withdrawals from all the accounts of the borrowing unit and take necessary steps to recover the outstandings. The recoveries are to be shared between the Guarantee Organisation and the lending institution in a prescribed ratio.

# III. LIBERALISED CREDIT SCHEME OPERATED BY THE STATE BANK OF INDIA AND ITS SUBSIDIARIES

Realising the importance of small scale industries in India and their critical dependence on institutional credit, the State Bank of India took initiative in advancing loans to small scale units by introducing a pilot scheme for coordinated credit in March, 1956. The scheme was first confined to 9 centres only but was gradually extended to all other centres so as to cover the whole country since January, 1959. In the earlier stages the Bank confined its operations to short-term lending by way of grant of accommodation against inventories and receivables only but subsequently started giving medium term loans also to cater to the growing demand for modernisation, renovation, expansion and also for acquisition of fixed assets like land, building, plant and machinery.

*Short-term Loans*

The Bank's assistance scheme has two main aspects viz. (a) provision of coordinated finance and (b) liberalisation of terms and conditions for advancing loans to small scale units.

The scheme is implemented with the assistance of a working group consisting of representatives of State Director of Industries, concerned Small Industries Service Institute, State Financial Corporation, and the State Bank of India. In each circle of the State Bank, a Local Coordination Committee coordinates its entire work which at the central level is under the supervision of a Central Coordination Committee.

The main features of the liberalised scheme adopted by the State Bank of India for granting loans to small scale industries are as below:

(i) Small scale units engaged in manufacturing activities that have good prospects are now accommodated for financial assistance by the State Bank of India and its subsidiaries even if they do not maintain a satisfactory debt/equity ratio or are unable to provide adequate margin or are unable to go in for the lock and key form of advances—the factory advances being made available to them in such cases.

(ii) Accommodation is allowed against the hypothecation of stock-in-process on the retention of slightly higher margins, if this is genuinely needed by units. (This relaxation is applicable to units borrowing only from the State Bank of India).

(iii) Margin is reduced in case of controlled commodities in short supply and where wide price fluctuations are not apprehended, provided units genuinely require concession.

(iv) Letters of credit, in-land as well as foreign, are allowed to the established units at concessional rates of margin, or even without margin where necessary and warranted.

(v) Advances against the pledge of machines (factory type advances) for meeting the working capital requirements of the approved units, are allowed when the unit is unable to get adequate working capital limits against raw materials and finished products alone.

The liberalised scheme of State Bank of India is being operated by its subsidiary banks also.

**Types of Accommodation**

*Lock & Key*

These are pledged advances useful particularly to units when the process of converting raw materials into finished products is elaborate involving a considerable time gap. All the raw materials, not immediately required for processing purposes, can be kept under Banks' lock and advances given against them. It has the advantage of turning the same limited working capital over and over again.

*Factory and Mandi*

These are also pledged advances but with a great difference. The godowns are not under Bank's lock. The only evidence of the pledge over the goods in the Bank's favour is the Bank's name board. With the posting of a full time watchman at the factory, every formality is completed.

Even the posting of full-time godown-keeper is dispensed with when it is possible for the Bank's staff to exercise adequate supervision of the stocks. Industrial units which require raw material constantly for processing and who cannot conveniently place the raw material under lock, can be benefited by this arrangement.

In the case of Mandi-type advances, Bank's key is kept under trust with the borrower himself with some kind of collateral security in the form of mortgage of immovable property or third party guarantee.

*Trust Receipts*

Sometimes a unit has to despatch goods from the godown and is unable to find the money to get them released from the Bank's lock, until they are paid for. In such cases, it may be possible for the Bank to release the goods till the railway receipt or other documents of title are available for advancing against, if the customer agrees to hold the security as a trustee for the Bank and executes a trust letter or receipt.

*Finished Goods*

Finished goods make good security provided the Bank is satisfied that the product has good market and the technical performance of the unit is upto the mark.

*Stocks in Process*

Materials moving along the conveyor belt also can constitute security for finance. But evaluation of stock-in-process will have to be carefully done with special reference to the time taken to complete the process and margins retained on such advances may be understandably slightly higher.

*Trade Bills*

Advances against trade bills are popular with small scale units. In appropriate cases, bills are sent direct to the branches of the bank specified by the borrower, provided, of course, it is a scheduled bank.

*Supply Bills*

Advances are made against bills covering supplies of goods to Government Departments. These bills are sent direct to the paying authorities of the concerned departments of agencies indenting the supplies, if so desired by the borrower.

Advances against bills on DGS&D form a unique feature on account of the fact that they are mostly granted on the loan security of the bills themselves provided, of course, that the bills are accompanied by inspection notes or pre-receipted challans.

*Movable Machinery*

Feasibility of granting a suitable limit on 'factory-type' basis against the pledge of movable machinery is also considered. This facility assists the units in generating liquid assets which, in turn, are pledged to the Bank, thereby, adjusting in due course the outstandings under the original limit.

*Clear Limit without Security*

In cases when pledge of movable machinery is also not possible, advances are given against a guarantee of suitable persons or the collateral security of fixed assets or a combination of both.

In cases where it is not feasible to grant a suitable limit on 'factory type' basis against the pledge of movable machinery, this facility assists the unit in generating liquid assets which, in turn, are pledged to the bank, thereby adjusting in due course the outstandings under the original limit.

*Term Loans*

State Bank of India made a small beginning in 1956 by accommodating small scale industries to overcome their temporary difficulties arising from time to time. In the earlier stages, the Bank confined its activities to short-term lending only. With the encouraging results and good progress made, the Bank entered the field of medium-term loans also in the year 1963. These loans are advanced with a view to catering to the requirements of modernisation, renovations and expansion. The Bank started granting medium-term loans and instalment credits for acquisition of fixed assets like land, buildings, plant and machinery. To start with, the facility of medium-term loans was restricted to only those small scale units which already had borrowing arrangements with the Bank for their working capital requirements but gradually this condition was relaxed. The applications from new units are since being entertained.

**Terms and Conditions governing Medium-term Loans**

Under Medium term loans, a sort of dual security is generally expected. Firstly, a charge over the existing assets, if any, of the unit and secondly on the assets created out of the proceeds of the loan are generally considered adequate for the purpose. In some instances, third party guarantee is also called for. A registered simple mortgage covering these assets is taken but when the amount of the loan is not in excess of Rs. 25,000, an "equitable" mortgage is also considered, the advantage being that the applicants are not made to bear heavy stamp duty payable in respect of documentation formalities associated with a registered simple mortgage.

*Margins*

Usual margins allowed are 50% against land and building and 33⅓% against machinery and equipment. However, these are not the rigid percentages and a flexible approach is followed depending upon the merits of the cases and suitable relaxations are considered when warranted. Unit's capacity to offer margin is also an important factor. Units of standing with satisfactory performance may enjoy a substantial relaxation.

*Insurance*

The assets charged to the Bank are required to be insured against the usual risk with an approved Insurance Company. Here also, when the amount of loan is less than Rs. 25,000 requests for waiving of comprehensive insurance are considered on the merit of each case.

*Disbursement*

The loan is disbursed in accordance with the schedule of disbursement drawn up at the time of sanctioning the loan. As far as possible payments are made to the suppliers, direct.

*Rate of Interest*

The rate of interest is linked with the State Bank advance rate which varies from time to time. The present rate for term loans to small scale industries is 8¼%.

*Repayment*

The loans are repayable over a period extending up to 7-10 years either on monthly, quarterly, half yearly or yearly instalments with a suitable start up period in appropriate cases. The period of these loans are closely knit with factors such as estimated capacity of the unit to repay the loans out of profits.

The Bank also operates a scheme for grant of instalment credits in terms of which advances are granted to small scale industrialists to enable them to obtain movable machinery and equipment new or second hand as long as the equipment is in reasonably good working condition. The main distinguishing feature of this type of loan is that as it is intended to cover the purchase of movable machinery/equipment, it is possible to obtain hypothecation charges. The consequential formalities involved are simple.

**Terms and Conditions governing Grant of Instalment Credits**

*Security*

Hypothecation of machinery/equipment proposed to be purchased out of the proceeds of the loan become an essential part of the security. When considered necessary, unencumbered existing assets and/or third party guarantee are also obtained.

*Margin*

Normally a margin of 25% to 33⅓% is allowed. However in appropriate cases, even a lower down payment of 20% is considered acceptable.

*Insurance*

The machinery equipment required is to be kept insured against the usual risk of fire and theft. When, however, the amount of loan does not exceed Rs. 25,000 request for waiving comprehensive insurance is considered on the merit of each case.

*Disbursement*

The price of the machinery is generally paid to the supplier direct. If the machinery has been acquired by the applicant out of his own funds within a period of 12 months prior to the date of application, requests for re-imbursements are also considered.

*Rate of Interest*

Interest in respect of instalment credits is levied by way of finance charge which is added to the principal amount of the loan. In terms of interest rate of reducing balances, the present rate comes to 9%.

*Repayment*

Loans are repayable over a period not exceeding 5 years in suitable monthly, quarterly or half-yearly instalments with a convenient start-up period.

## SCHEME FOR FINANCING CRAFTSMEN AND OTHER QUALIFIED ENTREPRENEURS DESIROUS OF SETTING UP OF SMALL SCALE INDUSTRIES

The Scheme envisages provision of finance to such entrepreneurs, including, to the extent necessary, the owner's equity in business. So long as the purpose is to set a worthwhile project, there are prospects for its successful operation and, in consequence, reasonable assurance of repayment forthcoming, finance will be made available, provided, of course, the persons have personal attributes like character and integrity and possess the requisite know how as well as managerial ability. For protection, the entrepreneurs will be required to charge to the Bank their assets acquired either through the finance made available by the Bank or otherwise.

The financial assistance may take different forms depending upon the actual requirements. It may even cover a combination of more than one type of financing namely, (1) Instalment Credit for financing the purchase of machinery/equipment, (2) Medium Term loan for financing the long term working capital and (3) Cash Credit or Demand Loan for catering to the short term working capital requirements.

To start with, however, only such projects will be entertained where the total financial assistance to an entrepreneur can be limited to Rs. 0.2 million. The ceiling of bank's assistance to an enterprise can be raised to Rs. 0.3 million if two or more such qualified/experienced craftsmen entrepreneurs join hands.

All surplus generated by the enterprise will first be applied in repayment of the Instalment Credit and Medium Term Loan. In this manner, the owner's equity will be gradually strengthened and until this has been done, no part of the surplus will ordinarily be allowed to be withdrawn from business for any other purpose whatsoever.

*Note:* Rates and charges given in this scheme are changed from time to time as the situation warrants.

## IV CREDIT GUARANTEE SCHEME OPERATED BY THE NATIONAL SMALL INDUSTRIES CORPORATION

Credit is the power that enables the wheels of industry to turn. Whatever may be the category of a manufacturing unit—Cottage, Small Scale or Large, it cannot function for long without the aid of institutional credit. Finance is required by an entrepreneur not only for his present programme but also for future expansion. Much technical ability in this country lies dormant because of factors hinging on financial availability and considering the industrial status of our country such an incidence calls for urgent rectification.

A small scale industrial entrepreneur lacks the assets, credit-worthiness and very often the familiarity with the processes attached to institutional financing that will assist him in obtaining assistance from recognised banking institutions and his need is not so meagre that it can be met by private borrowing. His case, therefore, calls for special examination and treatment. When his need for finances is related to the supply of manufactured items and parts required by our Government and its agencies like the Railways etc., the need for special arrangements becomes more poignant as the business demands **ad-hoc** and not sustained treatment. Production against the requirements of the market, as it is called, accommodates regularisation by the contracts from Government institutions are rather sporadic and the party quoting the lowest price is normally the winner. Further, Government contracts stipulate almost immediate delivery of goods mainly because they have to conform to formalities which take up considerable time for finalising contracts leaving comparatively little time for their execution.

In order to meet the above difficulties, the NSIC introduced, some five years ago, a Credit Guarantee Scheme in conjunction with the State Bank of India. All small scale units that are registered with the NSIC and secured contracts from Government organisations could obtain finance under the C.G.S. (Credit Guarantee Scheme). Under the Scheme, the units could procure finance needed for buying the concerned raw materials. Banks in the course of their normal business grant cash credit facility to their manufacturing clients. But in such cases the loans available from the banks are upto about 70 per cent of the value of the pledged material because a banking margin is retained.

Thus the borrower has not only to draw his supplies against cash payment but also has to meet this margin from his already meagre cash resources. The particular advantage behind NSIC's C.G.S. is that it also covers this normal banking margin. On the strength of issue of a guarantee by the NSIC, the Bank advances upto 100 per cent of the value of raw material pledged by the small scale unit. For this valuable assistance NSIC charges a nominal rate of half per cent over the normal interest charged by the State Bank.

Although the scheme did help the units, it was limited in its scope. It was, therefore, decided to enlarge the scope of financial assistance to the small units by making it to cover their financial needs at all stages of production. After detailed discussions with the representatives of the Government of India, Reserve Bank, State Bank of India and the Federation of Associations of Small Industries, a new scheme called "NSIC—GUARANTEE SCHEME No. 2" (NSIC—GS for short) has now been introduced. The main features of the scheme are:

(a) While issuing copies of tenders to the small units enlisted with the NSIC, the Corporation will ask the units to contact the Agent of the branch of the State Bank of India nearest to them in order to familiarise themselves with the facilities available to them under the NSIC—G.S.

(b) NSIC will send weekly statements depicting the contracts placed on small units, to the branches of the State Bank so that their representatives may call on the concerned units and advise them about the procedure to be adopted for deriving benefits from the scheme. NSIC's despatch of the weekly statements assists the Bank to initiate, without loss of time, the preliminary work that must precede all extension of credit.

(c) After the representative of the unit has called on the local branch of the S.B.I. or the latter has called on the former, the application form relating to the NSIC—G.S. will be handed over by the Branch to the unit and the unit in its turn will hand over the original contract to the Bank alongwith the application, after completing the details. The Bank after making out a copy of the contract will return the original to the concerned unit.

(d) The Agent of the State Bank may either sanction the advance for raw material at his own discretion or send the relevant documents to his Head Office for approval.

(e) In the meanwhile, NSIC will have received SISI's recommendation regarding the technical competency, managerial ability and past performance of the unit. A copy of this would be marked to the concerned branch of the S.B.I. also. On the basis of the recommendation and after necessary examination, NSIC will issue their guarantee which is of course subject to the Bank's discretion to give the credit. The advance finance resulting from the credit will cover all stages of production, from the purchase of raw material to the discounting of bills. Thus by simultaneous action by NSIC and the State Bank for completing the necessary formalities, loans will be sanctioned speedily under the NSIC—G.S.

(f) There may arise occasions when the S.B.I. may be prepared, in the case of particular clients, to advance amounts which are less than the amounts recommended by NSIC, it may also happen that S.B.I. may refuse advances altogether. Such occurrences will not be possible to many reasons. Any industrial unit which conforms to the definition of a Small Industry and is enlisted with the NSIC, can take advantage of the NSIC—G.S. The Credit facilities can be obtained against orders secured from any Central Government or State Government Agencies including public sector undertaking. The Credit facility under the scheme covers the assistance to Small Units in the following forms:

(a) A loan from the State Bank for the purpose of raw material.

(b) A cash credit account i.e. payment of advance against pledge of raw material.

(c) Overdraft against raw material and components during the process or production.

(d) Advance against the government bills duly presented to the bank alongwith the inspection notes and the Railway receipt number, etc.

(e) Opening of letter of credit on behalf of the clients to pay to the supplier from whom the clients purchase the raw material.

(f) The issuance of Bank Guarantee to the supplier of raw material against the purchases made by the manufacturing client or direct payment to the supplier of raw material.

Financial credit can never be secured free of cost or without formalities. NSIC's presence in the 'giver-taker' picture, as a guarantor, has reduced the number and strength of the strings attached. For its satisfying success and smooth working, the scheme needs a workout with open minds and for its full such utilisation it needs you, the reader, as the carrier of its objective which has been described above.

## V INDIAN INVESTMENT CENTRE

In the context of India's industrial development programmes which called for a coordinated approach in terms of overseas assistance by way of technology and investment, Government felt the need for the organisational services of an agency which could explain India's needs and interpret the Government objectives and policy, disseminate authentic information and understanding of laws, policies, procedures and conditions pertaining to investment in India to foreign entrepreneurs. It could thus fulfil the role of a catalyst to bring together Indian and Foreign entrepreneurs and generally help in promoting industrial development. It was also realised that its capacity for rendering such special services would be considerably strengthened if it were to function as an autonomous organisation outside the normal administrative machinery of the Government and yet be in a position of close relation with the Government and the industry so as to be an effective instrument of service. The Indian Investment Centre was, therefore, registered on 30 November, 1960 under the Societies Registration Act XXI of 1860. The Centre functions as an autonomous service organisation and on a non-profit basis.

### Objectives

The objectives of the Indian Investment Centre are basically designed to stimulate the flow of foreign private capital into India within the framework of Government's policies. With this end in view, the Centre undertakes

* to promote, among the capital exporting countries, a wider knowledge and understanding of laws, policies, procedures and conditions pertaining to investment in India and opportunities offered by the country;
* to advise and assist Indian entrepreneurs, including those engaged in medium and small industries, in their efforts to attract foreign private capital and/or advanced technical know-how;
* to advise and assist foreign businessmen on matters relating to the setting up of joint ventures consistent with the basic framework of India's Five Year Plans;
* to conduct surveys of investment possibilities open to prospective investors in India;
* to promote wider knowledge and understanding of conditions, laws, policies, and procedures pertaining to investment by Indian entrepreneurs in foreign countries; and
* to advise and actively assist Indian businessmen in the setting up of industrial or other joint ventures abroad.

The Centre functions from a well-informed position and with an objective approach to bring together Indian and foreign enterprises in fruitful collaboration. It provides a convenient forum to foreign and Indian entrepreneurs to have a free and frank exchange of views on various aspects of investmental interest. They have also the opportunity of candid discussion of their difficulties and problems in the context of any specific provision of Government regulation, policy or procedure on foreign private investment in general or on their particular venture, with a view to exploring to what extent such individual difficulties might be resolved or minimised. Its informal atmosphere is also conducive for such discussions without a spirit of prior commitment in regard to any particular aspect of a project if it is considered by the entrepreneur as yet premature. The services of the Centre may also be utilised for bringing the problems and critical reactions of the entrepreneurs to the notice of the Government in an objective manner. Equally, the Centre explains to the prospective investors, the rationale behind Government policies and procedures in general or their broad approach to specific aspects of individual proposals so that they may be understood in their proper perspective.

Though the Centre is not a policy-making agency or an approving authority, it plays a useful role by assisting industrial entrepreneurs—Indian and foreign—in the formulation of proposals for joint ventures and in obtaining the necessary Government approvals speedily. The Centre renders these services free of charge.

### Governing Body

The Centre works under the direction of a Governing Body consisting of eleven members. They represent a broad cross-section of the country's industrial and financial interest. Except for two members who are senior Government officials, others are selected on the following basis:

(a) Five members representing the Industrial Credit and Investment Corporation of India whose Board of Directors in turn represent Indian and foreign business houses.

(b) Four members representing Indian financial institutions and organisations of businessmen and industrialists which include

(i) the Reserve Bank of India;
(ii) the Industrial Finance Corporation of India;
(iii) the Industrial Development Bank of India;
(iv) the Unit Trust of India;
(v) the Commercial Banks;
(vi) the State Finance Corporations; and
(vii) the Chambers of Commerce.

The Government nominates the members and also the Chairman of the Governing Body. The members of the Governing Body hold offices for a period of three years and are eligible for re-nomination.

The Centre's Head Office is located in New Delhi. At present, it has branch offices in New York, Duesseldorf and London. In the other countries, the Centre functions through India's diplomatic and commercial representatives.

### The Investment Service Division

This Division is headed by Technical Advisers (Engineering and Chemical industries) who are assisted by technical and other officers specialised in handling project proposals. The broad functions of this Division are:

(a) to advise or bring to the notice of entrepreneurs in India and abroad the investment opportunities in specific fields;

(b) to assess the present position and the long-term growth aspects in specific fields;

(c) to disseminate information on availability of raw materials and machinery and capital required for the project;

(d) to find (i) foreign partners for Indian parties who approach the Centre with plans for industrial projects and (ii) Indian partners for foreign parties who approach the Centre either in New Delhi or in any of the IIC overseas offices or the Indian Embassies in other countries with proposals for establishing industrial enterprises in India in collaboration with Indian parties;

(e) to examine the various aspects of each joint venture proposal with reference to its technical and financial features and conformity to the basic objectives of the industrial policy pertaining to that field;

(f) to assist foreign entrepreneurs with information on the financial standing of prospective Indian collaborations; and

(g) to provide active assistance to Indian entrepreneurs by disseminating information on conditions, laws, policies, and procedures pertaining to investment in foreign countries and guidance regarding various aspects of the proposals for setting up joint ventures in those countries.

The Division keeps itself fully informed of Government's industrial and investment policies and maintains close liaison with various Government offices concerned with the consideration and processing of joint venture proposals. The Advisers are also in close touch with industry and by participating in various meetings and seminars organised by the industry and being associated with various Development Councils, have an opportunity of getting first-hand knowledge of the conditions in particular industries. Besides helping in the formulation of collaboration proposals, continuing interest is kept with a view to facilitating expeditious processing of the proposals at various stages. Post-production problems are also attended to.

### Economic Division

The main function of the Economic Division is to keep under constant review the trends in the Indian economy and the economies of the other countries of the world and review the economic policy from time to time. The Division also undertakes studies on various aspects of the Indian economic situation and specific investment opportunities which have a bearing on creating a clearer understanding on the part of the foreign investors about India's economic policies and investment plans. The Division is headed by the Economic Adviser who also is the Editor of the Monthly Newsletter and is responsible for the various publications of the Centre.

### Publications, Finance and Administration Divisions

The Publication Division is responsible for the designing, printing, sale and distribution of the various publications of the Centre while the Finance and Administration Division is, as the name implies, concerned with financial and administrative matters.

### The New York Office

The Centre's Branch Office in New York which started functioning in October 1961, is headed by a Resident Director. He is assisted by an Assistant Director and a small staff to carry out effectively the day-to-day work. It plays a significant role in bringing project propsals forwarded by the Headquarters at New Delhi to the attention of suitable US firms/entrepreneurs and vice versa. It maintains liaison with US industrialists and executives and is actively engaged in awakening US entrepreneurial interest in the investment opportunities offered by India. It is assisted by Advisory Committees comprising of prominent US businessmen, bankers, financiers, economists and industrialists, who provide guidance and advice for implementing effectively the Centre's programme in the U.S.A. There are seventy industrialists, bankers and economists who serve on these Advisory Committees and function as valuable source of informed opinion to American businessmen about the investment climate in India and serve as a link between the Indian Investment Centre and the potential US investors in India.

The nine key cities around which the Advisory Committee members have been grouped are: New York, Boston, Philadelphia, Chicago, Cleveland, Detroit, Pittsburg, Los Angels and San Francisco.

### The Duesseldorf Office

The organisation of the Duesseldorf office is similar to that of the New York office. This Branch Office started functioning in October, 1964. A Resident Director, assisted by an Assistant Director and a small staff looks after the day-to-day activities of the branch. This office covers all the West European countries besides the Federal Republic of Germany. It is also assisted by an Advisory Committee in Duesseldorf on the lines of the arrangement in the U.S.A. In course of time, the Duesseldorf branch proposes to set up Advisory Committees in the key cities of West Europe.

**The London Office**

In London, the Branch Office is headed by a Resident Representative who is assisted by a small staff. This unit works in close liaison with the Economic and Commercial wings of the High Commission of India who also provide assistance in establishing contacts with industries and promoting joint ventures.

## VI FACILITIES AVAILABLE UNDER THE STATE AID TO INDUSTRIES ACT

Loans are granted to small scale industries liberally at concessional rates of interest on long-term basis by the State Governments under the State Aid to Industries Act/Rules for acquiring fixed assets like land, building and machinery. These loans are disbursed by the State Directorate of Industries. The small entrepreneur is required to make an application on the prescribed forms which can be had from the Directorate of Industries. The terms and conditions for grant of these loans as well as procedures vary from State to State and the entrepreneur may get detailed information on these aspects from the State Directorate of Industries. Normally, loans up to Rs. 1,000 are advanced on personal bonds and up to Rs. 5,000 against two personal sureties. Loans above Rs. 5,000 are granted at 75 per cent of the security offered including the assets created out of the loan. Ordinarily, loans to individual entrepreneurs and industrial co-operatives should not exceed Rs. 50,000 and Rs. 200 000 respectively. The loans are generally repayable in easy instalments spread over ten years. The rate of interest chargeable on these loans varies from State to State between 2½ per cent to 7 per cent. A few State Governments offer an interest rebate ranging between 2 per cent and 3 per cent for prompt repayment.

With a view to institutionalising the flow of credit to small industries, some State Governments have entered into agency arrangements with State Financial Corporations for disbursement of these loans. Such arrangements exist in the States mentioned below:—

1. Andhra Pradesh
2. Assam
3. Gujarat
4. Haryana
5. Maharashtra
6. Orissa
7. Punjab
8. Rajasthan
9. Uttar Pradesh

# 7

## 7. MARKETING ASSISTANCE

GOVERNMENT STORES PURCHASE SCHEME (PROCEDURE OF GOVERNMENT STORES PURCHASE SCHEME OPERATED BY SSIDO AND NSIC AND OF SIMILAR SCHEMES OPERATED BY THE INDIAN RAILWAYS, POSTS & TELEGRAPH DEPARTMENT, GOVERNMENT OF INDIA AND THE STATE SMALL INDUSTRIES CORPORATIONS)

## GOVERNMENT STORES PURCHASE SCHEME

The scheme now being operated by the Small Industries Development Organisation (SSIDO) and the National Small Industries Corporation (NSIC) aims at securing for the small scale industries a fair share of Government orders. More or less in a similar manner, this type of scheme is operated by the Indian Railways, Post & Telegraph Department and some of the State Small Industries Corporations. The later Agency deals with the purchases of the concerned State Governments instead of the Central Government.

The DGS&D has Purchase Offices located at New Delhi, Bombay, Calcutta, Kanpur and Madras. For the purpose of effective co-ordination, the NSIC too has set up its Liaison Offices at these centres besides a Central Liaison Office at the Office of the DGS&D, at New Delhi. All indents received by the DGS&D and its regional offices from the various Government Departments including Defence Departments are examined by the Committees consisting of the Liaison Officer of the NSIC for the region concerned and an Officer nominated by the Purchase Office. A technical officer from the SSIDO assists the committee in the scrutiny of indents received at the Headquarters Office of the DGS&D. Indents considered suitable for small scale units are marked as such. These items are further categorised as those procurement of which is *reserved exclusively from the small scale units*. Another category includes such items as both the large and the small scale units can supply.

Continuous efforts are made to get more names added to the list of items reserved for exclusive procurement from small scale industries. At present, there are 146 items in this group.

### How to Participate in the Scheme

You can avail of the benefits of the scheme by getting your industrial unit enlisted with the Corporation. Normally for the purpose of participating in the DGS&D Stores Purchase Programme, the contractors are required to be registered with the DGS & D. If, however, you are registered with the Corporation, further registration with the DGS&D is not needed and you are entitled to avail of all the facilities of units registered with the DGS&D. For enlistment, you need approach any one of the following offices whichever is convenient:

1. The National Small Industries Corporation, New Delhi, or its regional offices at Bombay, Calcutta and Madras.
2. The Small Industries Service Institute in your State (every state has an Institute) or any of its Branch Institutes or Extension Centres.
3. The Director of Industries of your State.
4. District Industries Officer of your District.

There are over 18,000 small scale units which have already enlisted themselves with the Corporation for participating in the scheme.

### How to Enlist

To enlist in the Government Stores Purchase Programme you have to fill up in triplicate the prescribed proforma and submit it to the Small Industries Service Institute of your State. A glance at the proforma indicates that you are to furnish general information about your unit, the machinery and equipment at your disposal, the products you have been manufacturing and the products you intend to supply to the Government. You would be enlisted for the supply of the products you intend to supply.

As soon as your application is received in the Small Industries Service Institute, a technical officer of the Institute would visit your factory to satisfy himself about your capacity to manufacture the products. Your application would then be forwarded to the National Small Industries Corporation for enlistment.

Once you are enlisted, your name would be on the registers of the National Small Industries Corporation as a supplier of specified products. When the DGS&D issues tenders for these items, a copy of the tender-set would be sent to you by the National Small Industries Corporation free of charge. Immediately after the tender-set is supplied, your name along with others to whom such tenders are issued is communicated to the Purchase Office. You are required to submit your tenders direct to the Purchase Office. After the opening of the tenders by the Purchase Office, the attached Liaison Officer/Regional Manager of the Corporation keeps a close watch on the case. He ensures that small scale units competing successfully are awarded orders. All such cases where your tenders are rejected are investigated into and reasons thereof ascertained and communicated to the Small Industries Service Institute of your State so that you are guided and assisted to participate more successfully in future tenders.

### No Security Deposit Required

The Purchase Offices call for a certificate of competency from the Corporation about your capacity to execute purchase orders. The Corporation issues such certificates in consultation with the Small Industries Service Institute of your State. Normally the Purchases Office accepts such competency certificates. In such cases, however, when the manufacture of stores involves certain operational efficiency and safety, the Inspection Wing of the DGS&D also makes its own inspection to determine your capacity. If it is felt that you do not have the requisite equipment of technical competence to produce goods according to specified standards, only trial orders are placed on you to test your capacity.

No security deposit is demanded from you if you have a certificate of competency from the Corporation.

### Your Tenders Receive Price Preference

A price-preference upto 15 per cent is given to you on your quotations over the acceptable quotations of the large scale units in respect of tenders for which quotations are invited from both small and large scale units by the DGS&D. While deciding the extent of price-preference, the Purchase Offices normally take into consideration factors like overheads, whether you suffer from any handicap affecting your capacity to compete and your previous record of tender.

### You are Helped in Actual Execution of Orders

After a contract has been placed on you, copies of Tender Acceptance Advices are obtained by the Liaison Officer of the Corporation and forwarded to the Small Industries Service Institute as well as to the Director of Industries of your State so that they may render the necessary technical assistance, help in procurement of raw material, etc. to enable you to successfully execute the contract.

One of the main difficulties envisaged by a small scale unit in executing Government contract, is lack of finance for the purchase of raw-material. To solve the problem, the NSIC entered into an agreement with the State Bank of India on 28th September 1958 whereby a small unit enlisted with the NSIC could get a loan against a contract placed by the DGS&D, or any other Government organisation. The scheme did not prove popular because the credit facility covered only one stage of supply. After prolonged negotiation, a new scheme called NSIC Guarantee Scheme No. 2, has now been introduced. The salient feature of the scheme is that it covers the financial needs of units for executing Government contracts covering all stages of production from the purchase of raw-materials to the discounting of bills. The scope of Government contracts is also enlarged to include orders from Central Government or State Government Agencies including Public Sector Undertakings.

### Payment

When the goods are ready for despatch, in your own interest, get them inspected and approved by the DGS&D officers prior to their despatch. When the goods pass inspection and you are able to provide proof of despatch of the goods like railway receipt etc., you would be paid 95 per cent of the price the balance would be paid after the goods are received and verified by the indentor.

# 8

## 8. WORK-SHEDS AND INDUSTRIAL ESTATES

I SPREAD-OUT OF INDUSTRIAL ESTATES IN THE STATES/UNION TERRITORIES OF INDIA.

II FACILITIES AVAILABLE FOR CONSTRUCTION OF INDUSTRIAL ESTATES FROM LIFE INSURANCE CORPORATION OF INDIA

III PLACES WHERE RURAL INDUSTRIES PROJECTS ARE SITUATED IN INDIA

## I SPREAD-OUT OF INDUSTRIAL ESTATES IN THE STATES/UNION TERRITORIES OF INDIA

| Sl. No. | Name of the State/ Union Territory | No. of Estates Functioning | Sheds | |
|---|---|---|---|---|
| | | | Allotted | Occupied |
| 1. | Andhra Pradesh | 31 | 582 | 521 |
| 2. | Assam | 2 | 137 | 109 |
| 3. | Bihar | 9 | 257 | 200 |
| 4. | Dadar & Nagar Haveli | 1 | 26 | 26 |
| 5. | Delhi | 2 | 129 | 125 |
| 6. | Goa | 1 | 25 | 25 |
| 7. | Gujarat | 17 | 713 | 654 |
| 8. | Haryana | 10 | 186 | 151 |
| 9. | Himachal Pradesh | 5 | 65 | 51 |
| 10. | J & K | 16 | 229 | 151 |
| 11. | Kerala | 16 | 423 | 396 |
| 12. | Maharashtra | 35 | 1,496 | 1,416 |
| 13. | Madhya Pradesh | 24 | 460 | 416 |
| 14. | Mysore | 19 | 337 | 309 |
| 15. | Orissa | 10 | 175 | 148 |
| 16. | Pondicherry | 2 | 51 | 37 |
| 17. | Punjab | 16 | 536 | 468 |
| 18. | Rajasthan | 13 | 382 | 307 |
| 19. | Tamil Nadu | 29 | 593 | 560 |
| 20. | Tripura | 2 | 34 | 31 |
| 21. | Uttar Pradesh | 38 | 833 | 734 |
| 22. | West Bengal | 5 | 123 | 112 |
| | Total: | 303 | 7,797 | 6,947 |

## II FACILITIES AVAILABLE FOR CONSTRUCTION OF INDUSTRIAL ESTATES FROM LIFE INSURANCE CORPORATION OF INDIA

In the beginning, the programme was financed by the State Governments by advancing funds to the cooperative industrial estates out of their plan allocations. During the Third Plan, efforts were made to secure funds from the commercial and cooperative banks, state financial corporations and the Life Insurance Corporation.

The Life Insurance Corporation of India has a scheme under which it advances 60 per cent of the total cost of the estates in case the State Government concerned guarantees 100 per cent repayment of the principal and the interest. The members are expected to raise the remaining 40 per cent capital. If in any case the members are unable to raise this amount, the State Government may contribute not more than 20 per cent of the capital by way of purchase of shares of the society or as a long-term loan to meet the gap. Ultimately the entire cost is borne by the members themselves through a system of payment of LIC loans as the well as redemption of the Government shares in regulated annual instalments spread over a period of 15 to 20 years.

# III PLACES WHERE RURAL INDUSTRIES PROJECTS ARE SITUATED IN INDIA

**Andhra Pradesh**

1. Anantapur
2. Nalgonda
3. Narasaraopet
   (Distt. Guntur)

**Assam**

4. Gauripur
   (Distt. Goalpara)
5. Aijal
   (Mizo Hills District)

**Bihar**

6. Buxar
   (District Shahabad)
7. Nawadah
   (District Gaya)
8. Pusa, Laxminarayanpuri
   P.O. Vaini (District Darbhanga)
9. Dumka
   (District Santhal-Parganas)
10. Ranchi
    (District Ranchi)

**Goa**

11. Panjim

**Gujarat**

12. Bhuj
    (Distt. Kutch)
13. Godhra
    (Distt. Panchmahala)

**Himachal Pradesh**

14. Palampur
15. Mahasu

**Jammu & Kashmir**

16. Kathua
    (District Kathua)
17. Anantnag
    (District Anantnag)

**Kerala**

18. Alleppy
    (District Alleppy)
19. Kozhikode
    (District Kozhikode)

**Madhya Pradesh**

20. Surguja (Ambikapur)
21. Bhind
22. Khandwa
23. Bhilai

**Maharashtra**

24. Latur
    (Distt. Osmanabad)
25. Wardha
26. Sangamner
    (Distt. Ahmednagar)
27. Vengurla
    (District Ratnagiri)

**Manipur**

28. Imphal

**Mysore**

29. Dharwar
30. Tumkur
31. Bhadravati

**Orissa**

32. Barpali
33. Jajpur
    (Distt. Cuttack)

**Punjab**

34. Malerkotla
    (District Sangrur)

**Rajasthan**

35. Churu
36. Nagaur

**Tamil Nadu**

37. Sriperumbudur
    (Distt. Chingleput)
38. Nanguneri
    (Distt Tirunelveli)
39. Omalur
    (District Salem)

**Tripura**

40. Kailashahar

**Uttar Pradesh**

41. Phulpur
    (Distt. Allahabad)
42. Deoband
    (Distt. Saharanpur)
43. Ghazipur
44. Tarikhet
45. Mauranipur
    (Distt. Jhansi)

**West Bengal**

46. Darjeeling
47. Tamluk
    (Distt. Midnapur)
48. Barasat
    (Distt. 24-parganas)
49. Durgapur

# 9

## 9. TRAINING ASSISTANCE

I TRAINING IN MANAGEMENT COURSES AVAILABLE IN INDIA

II STUDY TEAMS AND DELEGATIONS SENT ABROAD BY SMALL SCALE INDUSTRIES DEVELOPMENT ORGANIZATION

III PERSONNEL OF THE SSIDO TRAINED ABROAD

## I TRAINING IN MANAGEMENT COURSES AVAILABLE IN INDIA

**Organisations Offering the Courses**

*Small Industry Extension Training Institute, Hyderabad*
*The Administrative Staff College of India, Hyderabad*
*Indian Institute of Management, Ahmedabad*
*Indian Institute of Management, Calcutta*
*National Productivity Council, New Delhi*
*The All India Management Association, New Delhi*
*Xavier Institute of Social Services, St. Xavier's College, Ranchi*
*Jamnalal Bajaj Institute of Management Studies, Bombay*
*Marketing and Management Methods, Kanpur*
*National Institute for Training in Industrial Engineering, Bombay*
*Small Scale Industries Development Organisation, Government of India, New Delhi*

**Small Industry Extension Training Institute, Yousufguda, Hyderabad-38 (A.P.)**

1. Industrial Management
2. Advanced Production Management
3. Marketing Management with Export Marketing
4. Operational Effectiveness
5. Financial Management
6. Management Accounting
7. Material Management
8. Quality Control

**The Administrative Staff College of India, Bellavista, Hyderabad**

1. Course for Senior Executives
2. Programme for Young Managers
3. Leaders of Tomorrow
4. Analytical Aids to Management
5. Investment Planning
6. Management by Objectives
7. Managerial Manpower Planning
8. Management of Human Resources
9. Materials Management
10. Marketing Management
11. Profitability Accounting
12. Production Management

**Indian Institute of Management, Vastrapur, Ahmedabad**

1. 3-Tier Programme for Management Development
2. Agricultural Supply Management Programme
3. Medical Representative Training Programme
4. Laboratory for Personal and Organisational Development
5. Programme for Young Executives
6. Programme on Analytical Aids for Decision Making
7. Programme for University Teachers on Economic Analysis for Business Decisions
8. Programme in Managerial Economics for University Teachers
9. Programme for Production Executives
10. Programme in Financial Management
11. Laboratory for Personal and Organisational Development
12. Programme on Corporate Accounting Control Systems
13. Programme in Personnel Management
14. Programme for University Teachers in Behavioural Sciences in Personnel Management
15. Programme for Purchasing Executives
16. Programme for University Teachers in Financial Management and Control

**Indian Institute of Management, Emerald Bower, 56-A Barrackpore Trunk Road, Calcutta-50**

1. Mathematics of Management System
2. Statistics of Management System
3. Operational Research
4. Productional Management
5. Studies in Industrial Engineering
6. Production and Inventory Control
7. Mathematical Theory of Inventory and Production
8. Analysis for Project Management
9. Quality Control Processes
10. Replacement, Maintenance and Reliability Theory
11. Statistical Methods
12. Industrial Statistics
13. Computer and the Management Control
14. Games and Statistical Decisions
15. Statistical Methods in Business and Psychology

**National Productivity Council, 38, Golf Links, New Delhi-3**

1. Management Development
2. Appreciation Programme for Supervisors
3. Marketing Management
4. Installation and Operation of a Cost and Budgetary Control System
5. Management Accounting
6. Financial Management
7. Profit Planning and Control
8. Personnel Management and Industrial Relations
9. Teaching Communication Methods
10. Industrial Safety
11. Materials Management
12. Production Planning and Control
13. Work Study
14. Plant Layout and Materials Handling
15. Quality Control
16. Preventive Maintenance
17. Production Engineering and Tool Design
18. Organisation and Methods
19. Wage Administration Incentives and Job Evaluation
20. Programme Evaluation and Review Technique
21. Cost Reduction

**The All India Management Association, Nizamuddin, New Delhi**

1. Value Engineering
2. Training in Training Technique
3. International Trade
4. All India Management Conference
5. Modern Systems of Planning and Control
6. Management Decisions in an Uncertain World
7. Inventory Management
8. Modern Systems of Planning and Control

**Xavier Institute of Social Services, St. Xavier's College, Ranchi**

*Elementary Course in Business Management*

1. Business Economics
2. Business Enterprises
3. Book-Keeping
4. Marketing and Advertising
5. Mercantile Law and Labour Law
6. Communication Skills

**Jamnalal Bajaj Institute of Management Studies, Dadabhai Naoroji House, 164, Backbay Reclamation, Bombay-20**

1. Diploma in Industrial Management
2. Diploma in Business Management
3. Master of Management Studies

**Marketing and Management Methods, 8/107, Arya Nagar, Kanpur-2**

1. Medical Representative Training Programme
2. Summer School for Management Orientation Programme
3. Practical Management and Marketing Programme

**National Institute for Training in Industrial Engineering, Powai, Bombay-76**

1. Method Study
2. Work Measurement
3. Predetermined Motion Time System
4. Work Study
5. Advanced Work Study
6. Plant Design and Layout
7. Materials Handling
8. Waste Reduction
9. Office Organization and Methods
10. Production Planning and Control
11. PERT/CPM
12. Optimization Techniques
13. Cost Estimating and Pricing
14. Stores and Inventory Control
15. Standardization and Quality Control
16. Value Enginering
17. Systematic Plant Maintenance

18. Production Engineering
19. Product Engineering
20. Production Management
21. Profit Planning and Profit Control
22. Business and Industrial Management
23. Management Control
24. Personnel Administration
25. Selection Methods and Procedures
26. Job Evaluation and Merit Rating
27. Man-power Utilisation
28. Principles of Supervision
29. Motivation Techniques
30. Human Relations
31. Industrial Communication
32. Marketing Management
33. Industrial Marketing
34. Market Survey
35. Sales Budget and Forecasting
36. Industrial Programme Techniques
37. Training Methods and Techniques
38. Computer Systems and Application
39. Business Statistics
40. Operations Research
41. Materials Management
42. Economics (Human Engineering)

**Small Scale Industries Development Organisation**

The Small Scale Industries Development Organisation through the net work of Small Industries Service Institutes located in each State, runs from time to time various types of training courses in industrial management for the benefit of small scale industrialists. These courses are offered as free of cost to the small scale industrialists or to those persons who intend to set up small scale industries. The object of these courses is to provide management training to the small scale industrialists and to equip them with the latest tools and techniques in their respective management fields. The training programme offered by the SSIDO incorporates in its courses extensive managerial subjects for improving the skills at various levels of management in the small scale units. Training of personnel is arranged for varying periods depending upon the specific needs of each area by the Small Industries Service Institutes. The list of training courses offered by the SSIDO together with their duration is given below:

1. *Industrial Management Appreciation Course*—Duration: Two hours in the evening for ten weeks.

The subjects covered in the Appreciation Course include introduction to Management Studies, Production Management, Cost and Budgetary Control, Purchasing and Inventory Control, Introduction to Marketing Management, Advertising and Publicity and Legal aspects.

2. *Specialist Courses*—Duration: Two hours in evening for six weeks.

The Specialist Courses are intended to give *more* intensive coverage of the three basic fields of management namely:

(i) Financial Management and Cost Accounting: The subjects covered include—Financial Management, Financial Accounts, Cost Accounts, Financial and Cost Analysis and Budgetary Control.

(ii) Production Management: The subjects covered include—Planning Organisation, Coordinating Control, Standardisation, Simplification, Purchasing, Store-keeping and Inventory Control and Work-study.

(iii) Marketing Management: The subjects covered include—Distribution Management, Sales Management, Salesmanship, Market Analysis, Pricing, Publicity, Advertising and Export Marketing.

(iv) Export Promotion: The subjects covered include—Courses of Information for Export Trade, Product Planning and Development for Foreign Markets, Pricing, Documentation, Packing and Packaging for Export and Export Literature.

3. *Ad hoc Courses:* Special short courses on specific tools and techniques of management like inspection, Quality Control, Work Simplification, Cost Control, Production Planning and Control, Product Development etc., may be conducted if sufficient number of small scale units in the field request for the same. The contents and duration of these courses are decided on the basis of specific requests.

## II STUDY TEAMS AND DELEGATIONS SENT ABROAD BY SMALL SCALE INDUSTRIES DEVELOPMENT ORGANIZATION

| Country to which Delegation was sent | Period | Purpose |
|---|---|---|
| 1 | 2 | 3 |
| 1. U.A.R. | January/ February 1968 | To advise the Govt. of U.A.R. on the organization and machinery for the development of small scale industries in U.A.R. |
| 2. Iran | November/ December 1968 | To advise the Govt. of Iran on the organisational structure and other linked aspects connected with the development of small scale industries in Iran. |

| 1 | 2 | 3 |
|---|---|---|
| 3. Afghanistan | March 1970 | To advise the Govt. of Afghanisthan on the development of small scale industries in Afghanisthan. |
| 4. Japan | September 1969 | To study the development of small scale industries in Japan and also to discuss renewal of Japanese assistance for Prototype Production - cum - Training Centre at Howrah. |

| 1 | 2 | 3 |
|---|---|---|
| 5. France | October 1969 | To participate in the Seminar on sub-contracting exchange in Paris organised by U.N.D.P. |
| 6. France | March/April 1969 | To participate in the First Afro-Asian Conference on Small Scale Industries. |
| 7. Italy | June 1969 | To attend the Seminar on Management Development for the developing countries. |

## III PERSONNEL OF THE SSIDO TRAINED ABROAD

| Sl. No. 1 | Name of trainee and occupation 2 | Scheme under which sent abroad 3 | Country of visit/ University/Institutions of study/training 4 | Subject of visit/ training 5 |
|---|---|---|---|---|
| 1. | Shri P. Satyanarayana, JFO | Ford Foundation | AB Fintlings Stockholm | Electroplating |
| 2. | ,, K.K. Banerjee, AD | —do— | Index Weske Kg. West Germany | Machine Tool Industry |
| 3. | ,, R.M. Barve, AD | —do— | Hanomag Linsden Hanover (West Germany) | Dies, Jigs & Fixtures |
| 4. | ,, C.D. Reddy, JFO | —do— | Stephen Werke, West Germany | F.H.P. Power Motors and Electrical Appliances |
| 5. | ,, A.M. Sukhia, JFO | —do— | I. Sanat A.GI., West Germany | Leather Tanning Industry |
| 6. | ,, S. Nanjundan DD | —do— | (i) Tech. University, Delft, Netherlands<br>(ii) Standard Research Institute, California, USA | International Course in Small Scale Industries |
| 7. | ,, V.K. Chebbi, DD | —do— | Tech. University, Delft, Netherlands | —do— |
| 8. | ,, P. Jayachandra, AD | —do— | —do— | —do— |
| 9. | ,, R.K. Chakravarty, DD | —do— | —do— | —do— |
| 10. | ,, N.D. Maitra, AD | Colombo Plan | United Kingdom | Malleable Iron Foundry Practice & Actual Production |
| 11. | ,, H.M. Som, AD | Indo-French Tech. Coop. Agreement | France | Production, Design and Manufacture of Improved Clocks |

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| 12. | Shri D.D. Khanna, DD | U.N.T.A.A. | Poland & U.S.S.R. | Design and Operation of Hot Blast Cupola, Gaseons, Malleabilization in the Manufacture of White Hearsh Malleables |
| 13. | ,, R.N. Gandhi, Director | Ford Foundation | Denmark, Netherlands, Norway & Sweden | To study the organisation functions and activities similar to Indian SISIs |
| 14. | ,, K.L. Nanjappa, Director | —do— | —do— | —do— |
| 15. | ,, D. Majumdar, Director | —do— | —do— | —do— |
| 16. | ,, P. Narasiah, Director | —do— | —do— | —do— |
| 17. | Dr. S.L. Sharma, Director | —do— | —do— | —do— |
| 18. | Shri C.P. Rao, DD | —do— | Tech. Institute, Copenhagen, Denmark | Training in Modern Techniques and Designing in the manufacture of tools, dies, jigs and fixtures |
| 19. | ,, Harkishan Singh, DD | —do— | Royal College of Sc. & Technology, Glassgow (U.K.) | Indl. Management subjects like P.P.C., Method Study, Cost& Budgetary Control, Middle Management, Statt. Quality Control etc. |
| 20. | Dr. Nau Nihal Singh, DD | —do— | (i) Royal College of Sc. & Technology, Glassgow (U.K.)<br>(ii) Japan | —do—<br>Visit to EXPO '70 and Exploring Export Possibilities |
| 21. | Shri A.K. Bhattacharya, DD | Ford Foundation | Royal College of Sc. & Tech. Glassgow, U.K. | Business Economics & Forecasting Method Study, Statistical Quality Control, Human & Indl. Relations, etc. |
| 22. | ,, M.J. Paul, DD | —do— | —do— | —do— |
| 23. | ,, C.M. Ramachandra Rao, DD | —do— | —do— | PPC, Cost & Budgetary Control, Method Study, Middle Management, Statistical Quality Control, Human & Indl. Relations, etc. |
| 24. | ,, S. Bose, AD | U.N.T.A.A. | (i) National Leather Sellers College London<br>(ii) U.S.A. | Leather Technology |

| 1 | 2 | 8 | 4 | 5 |
|---|---|---|---|---|
| 25. | Shri J. Ghosh, DD | Ford Foundation | (i) Northampton College of Technology, U.K.<br>(ii) C.I.C. Eng. Ltd. C & J Clark Ltd.<br>(iii) Fagus Werk (W. Germany) | International & Inplant Training in Footwear etc. |
| 26. | ,, C. Sankaran, AD | —do— | —do— | —do— |
| 27. | ,, N.T. Thadani, DD | A.P.O. | Japan | Small Business Management |
| 28. | ,, S.V.S. Sharma, DD | —do— | Bangkok, Formosa & Tokyo | Marketing and Distribution |
| 29. | ,, M. Narayanaswamy, DD | Ford Foundation | William Hood Indl. Instt., Minnesota, U S A. | Advanced Institutional & Inplant Training in the Field of Foundry |
| 30. | ,, H. Chakravarty, DD | A.P.O. | Japan | Training Course for Small Business Management Trainees and Advisors |
| 31. | ,, F.A. Ryan, AD | —do— | —do— | —do— |
| 32. | ,, B.N. Bhattasali, Director | A.P.O. | Thailand and Japan | Industrial Management |
| 33. | ,, M.N. Jakate, DD | US—AID (Thro. NPC) | U.S.A. | —do— |
| 34. | ,, A.R. Sen, DD | —do— | —do— | Indl. Engg. & Production Management |
| 35. | ,, Mohd. Akram, DD | —do— | —do— | —do— |
| 36. | ,, G.S. Apte, DD | West German Govt. Scholarship | West Germany | Dye Stuff |
| 37. | ,, G.P. Chaturvedi, AD | US—AID (Thro. NPC) | U.S.A. | Industrial Management |
| 38. | ,, N.R. Lodh, DD | Indo-French Tech. Coop. Scheme | France | Footwear Technology |
| 39. | ,, L.R. Upasani, Director | A.P.O. | Japan | Training of Trainers & Consultants |
| 40. | ,, G.B. Jakhetia, DD | US—AID (Thro. NPC) | U.S.A. | Industrial Engineering |
| 41. | Dr. H.A. Shah, Director | Ford Foundation | U.K., U.S.A., West Germany and Japan | Training in Plastics |
| 42. | Shri V. Thiyagarajan, DD | Colombo Plan | U.K. | Vacuum Metalisation & Indl. Finishing |
| 43. | ,, B. Dayal, Industrial Designer | Ford Foundation | Japan | Industrial Designing |
| 44. | ,, C.V. Kuppuswamy, DD | A.P.O. | (i) Japan | Small Business Management Trainers & Consultants Course |
|  |  | A.P.O. | (ii) Hawaii | SBMTC Course Symposium |
| 45. | ,, G.N. Murthy, Director | UNEPTA | Finland, Denmark, Sweden, Norway | Press Tools |

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| 46. | Shri K.M. Dargar, DD | U.N.T.A. | Sweden, Denmark | Die Casting & Designs |
| 47. | ,, S.K. Ghosh, DD | U.N.T.A. | Finland, Norway, Denmark, Sweden | Tool Engg. |
| 48. | ,, S. Nagarajan, Director | U.N.T.A. | U.S.A. | Leather Industry |
| 49. | ,, V.P. Maheshwary, DD | U.N.T.A. | Japan | Ceramic Technology |
| 50. | ,, J.V. Bapuraj, DD | U.N.T.A. | Sweden | Electrical Industries |
| 51. | , K.K. Mehan, DD | A.P.O. | Japan | Small Business Management Trainers & Consultants Course |
| 52. | ,, M.A. Bari, AD | A.P.O. | Japan | —do— |
| 53. | ,, P. Banerjee, AD | A.P.O. | Japan | —do— |
| 54. | ,, K.C. Mathur, AD | Colombo Plan | U.K. | Management Services |
| 55. | ,, A.N. Ghosh, DD | Indo-French Tech. Coop. | France | Management Consultancy |
| 56. | ,, D. Das Gupta, AD | —do— | France | —do— |
| 57. | ,, S. Raghaviah, Director | UNIDO | Japan | Inplant Training in Mech. Industries |
| 58. | ,, B.R. Babbar, AD | I.L.O. | Italy | Inter-Regional Tech. Meeting in Small Business |
| 59. | ,, B. Majumdar, DD | Indo-French Tech. Coop. | France | Refrigeration Techniques |
| 60. | ,, D.V. Shinde, DD | A.P.O. | Japan | Small Business Management Trainers & Consultants Course |
| 61. | Smt. K.P. Leela Nayar, AD | A.P.O. | Japan | —do— |
| 62. | Shri B.K. Kale, Director | UNIDO | Czechoslovakia | Inplant Training in Shoe Industry |
| 63. | ,, K.C. Saha, DD | UNIDO | Czechoslovakia | —do— |
| 64. | ,, R. Poornam, Director | UNIDO | Japan | Inplant Training in Shoe Industry |
| 65. | ,, H.C. Tandon, DD | UNIDO | U.K., Italy | Foundry Industry |
| 66. | ,, A.B. Divekar, DD | Colombo Plan | U.K. | Glass Reinforced Plastics |
| 67. | ,, M.L. Khurana, Investigator | —do— | —do— | Optical Instruments |
| 68. | ,, P.N. Gupta |  | Japan | Visit to EXPO '70 and exploring export possibilities |
| 69. | ,, M.K. Chitre, Director |  | Iran | To attend Petro-Chemical Saminar |

# 10

## INCENTIVES FOR ESTABLISHING SMALL INDUSTRIAL UNITS IN BACKWARD AREAS

The various state governments and local authorities offer today a wide range of incentives to entrepreneurs who desire to establish small industrial units in backward areas. An attempt has been made in this write-up to put all of them at one place. It needs mention that the depth and breadth of these incentives change from state to state.

### Financial Assistance

1. Loans on easy and concessional basis from government financial institutions.
2. Guarantee to loans either by the State Government or its financial agencies.
3. Contribution towards the cost of industrial housing.
4. Advance supply of building materials on loan from a revolving stock.
5. Participation by State Government or its agencies in the share capital of local small units.

### Tax Relief

(a) Sales tax on raw materials purchased or on finished products produced by a new unit refunded by way of interest free loans.

(b) Sales tax and Entry tax, if any, leviable on capital equipment acquired by a new unit refunded when the transaction is done within a specified period.

(c) Exemption of octroi within stipulated limits.

(d) Relief from incidence of certain duties and rates like electricity tariff, water royalties, non-agricultural assessment, etc.

### Marketing

1. Preferential treatment in Government Purchase Programmes.
2. Price-preference on products purchased by government.

### Defraying the Cost in the Preparation of Feasibility Reports, Market Potential Studies, etc.

Defraying the cost completely or in parts of the cost involved in preparation of feasibility and market reports for the promotion of a small scale unit or units in a backward area by the State Government or its agencies.

### Assistance in Obtaining Land

1. Government land made available at new growth centres on long-term-lease basis.
2. Developed land with infra-structural facilities made available for construction of work-shed.

### Supply of Controlled Raw Material

1. Supplying of controlled raw materials through depots opened for the purpose by the State Government or its agencies.
2. Special reserved quota of controlled and scarce raw materials to small scale units which manufacture declared priority items like export goods and defence products.

### Training

1. Assistance in technical training of personnel.
2. Imparting of in-plant training in established industries to qualified technical persons who want to set up units in backward areas.

### Technical Know-how

Furnishing of technical know-how on a priority basis by the Small Industries Service Institutes.

### Machinery on Hire-Purchase Basis

Plant and machinery on priority basis by the National Small Industries Corporation at the Centre and the State Corporations in various States.

# 11

## 11. SMALL SCALE INDUSTRIES BOARD AND ITS COMMITTEES

I MEMBERS OF SMALL SCALE INDUSTRIES BOARD

II VARIOUS COMMITTEES OF SMALL SCALE INDUSTRIES BOARD

## I MEMBERS OF SMALL SCALE INDUSTRIES BOARD

**Chairman**

Minister of Industrial Development and Internal Trade, Government of India.

**Members**

1. Minister of Food, Agriculture, Community Development and Cooperation, Government of India.
2. Minister of Petroleum and Chemicals and Mines & Metals, Government of India.
3. Minister of Defence Government of India.
4. Minister of Steel and Heavy Engineering, Government of India.
5. Minister of Foreign Trade, Government of India.
6. Minister of Supply, Government of India.
7. Minister of State in the Ministry of Finance (Department of Banking), Government of India.
8. Deputy Minister in the Ministry of Industrial Development and Internal Trade, Government of India.
9. Minister Incharge of Small Scale Industries,
   Government of Andhra Pradesh,
   **Hyderabad (A.P.).**
10. Minister Incharge of Small Scale Industries,
    Government of Assam,
    **Shillong.**
11. Minister Incharge of Small Scale Industries,
    Government of Bihar,
    **Patna.**
12. Chief Commissioner,
    Chandigarh Administration,
    **Chandigarh.**
13. Chief Executive Councillor,
    Delhi Administration,
    **Delhi.**
14. Minister Incharge of Small Scale Industries,
    Government of Goa, Daman & Diu,
    **Panaji.**
15. Minister Incharge of Small Scale Industries,
    Government of Gujarat,
    **Ahmedabad.**
16. Minister Incharge of Small Scale Industries,
    Government of Haryana,
    **Chandigarh.**
17. Minister Incharge of Small Scale Industries,
    Government of Himachal Pradesh,
    **Simla.**
18. Minister Incharge of Small Scale Industries,
    Government of Jammu & Kashmir,
    **Srinagar.**
19. Minister Incharge of Small Scale Industries,
    Government of Kerala,
    **Trivandrum.**
20. Minister Incharge of Small Scale Industries,
    Government of Madhya Pradesh,
    **Bhopal.**
21. Minister Incharge of Small Scale Industries,
    Government of Meghalaya,
    **Shillong.**
22. Minister Incharge of Small Scale Industries,
    Government of Maharashtra,
    **Bombay.**
23. Minister Incharge of Small Scale Industries,
    Government of Mysore,
    **Bangalore.**
24. Minister Incharge of Small Scale Industries,
    Manipur Administration,
    **Imphal.**
25. Minister Incharge of Small Scale Industries,
    Government of Nagaland,
    **Kohima.**
26. Minister Incharge of Small Scale Industries,
    Government of Orissa,
    **Bhubaneswar.**

27. Minister Incharge of Small Scale Industries,
Pondicherry Administration,
**Pondicherry.**

28. Minister Incharge of Small Scale Industries,
Government of Punjab,
**Chandigarh.**

29. Minister Incharge of Small Scale Industries,
Government of Rajasthan,
**Jaipur.**

30. Minister Incharge of Small Scale Industries,
Government of Tamil Nadu,
**Madras.**

31. Minister Incharge of Small Scale Industries,
Tripura Administration,
**Agartala.**

32. Minister Incharge of Small Scale Industries,
Government of Uttar Pradesh,
**Lucknow.**

33. Minister Incharge of Small Scale Industries,
Government of West Bengal,
**Calcutta.**

34. Member (Industry),
Planning Commission,
Yojana Bhawan,
**New Delhi.**

35-40. Six Members of Parliament (Names to be notified separately).

41. Secretary,
Ministry of Industrial Development and Internal Trade, Udyog Bhavan,
**New Delhi.**

42. Additional Secretary,
Ministry of Industrial Development and Internal Trade, Udyog Bhavan,
**New Delhi.**

43. Development Commissioner,
Small Scale Industries, Nirman Bhavan,
**New Delhi.**

44. Chairman,
National Small Industries Corporation Ltd.,
Okhla Industrial Estate,
**New Delhi.**

45. Chairman,
State Bank of India, Central Office,
**Bombay.**

46. Deputy Governor,
Reserve Bank of India, Central Office,
**Bombay.**

47. Custodian,
Punjab National Bank, Parliament Street,
**New Delhi.**

48. Custodian,
Canara Bank, 112, Jayachamarajendra Road,
**Bangalore-2.**

49. Chairman,
Andhra Bank Ltd., Post Box No. 161,
**Hyderabad (AP).**

50. Chairman,
New Bank of India Ltd.,
Central Office,
**Bombay.**

51. President,
Small Scale Industries Association,
Convent Street,
**Vijayawada-1 (A.P.)**

52. President,
Gauhati Industrial Estate Small Scale Manufacturers' Association,
P.O. Bamunimaidan,
**Gauhati (Assam).**

53. President,
Ranchi Small Scale Industries Association,
C/o Shri Radha Raman Press,
Main Road, **Ranchi (Bihar).**

54. President,
Jammu Small Scale Industries Association,
C/o Timber Private Ltd.,
Akhnoor Road, **Jammu.**

55. President,
Kerala State Small Scale Industries Association,
XVII/83, Banerjee Road,
**Ernakulam-8.**

56. President,
Rajasthan Industrial Estate Manufacturers' Association, 40, Industrial Estate,
**Jaipur.**

57. President,
Madhya Pradesh Small Scale Industries Association,
33, Malviya Nagar, **Bhopal.**

58. President,
Nagaland Small Scale Industries Association,
**Kohima.**

59. President,
Orissa Small Scale Industries Association,
Post Office: Chauliganj, **Cuttack-3.**

60. President,
Uttar Pradesh Industrial Estate Manufacturers' Association,
17, Industrial Estate, **Kanpur.**

61. Honorary General-Secretary,
Federation of Associations of Small Industries of Rajasthan, Agra Road, **Jaipur.**

62. President,
Guindy Small Scale Industries Association,
**Madras.**

63. President,
Industrial Estate Association,
**Ludhiana (Punjab).**

64. President,
Industrial Estate Association, Okhla,
**New Delhi.**

65. Secretary-General,
Federation of Indian Chambers of Commerce & Industry,
Federation House, **New Delhi.**

66. President, All India Manufacturers' Organisation, Jeewan Sahakar,
Sir P.M. Road, **Bombay-1.**

67. President,
Federation of Associations of Small Industries of India, 23B/2-Rohtak Road,
**New Delhi.**

68. Shri Murli S. Deora,
20, Anand Niwas, A-Road,
Churchgate, **Bombay-20.**

69. Dr. P.S. Lokanathan,
62, Srinagar Colony, Saidapeth,
**Madras-15.**

70. Shri A.R. Bhat,
256, Sadashiv Peth,
**Poona.**

71. Shri Tirupathi Rao,
Chairman, District Co-operative Bank,
Karimnagar, **Andhra Pradesh.**

72. Shri Nawab G.M. Omar Khan,
Khader Bagh, Berban, Guddimalkapur,
**Hyderabad (A.P.).**

73. Shri B. Basavalingappa,
2/1, Kumarapark, West Extension,
**Bangalore.**

74. President,
Federation of Medium and Small Scale Industries of West Bengal,
**Calcutta.**

75. Shri M. Parthasarathi,
Standard Pencil Factory, Guindy Industrial Estate, **Madras-32.**

76. Shri M. Krishnamurthy,
M.M. Industrial Estate, Kanakpur Road,
**Bangalore-11.**

77. Smt. H. Khanna,
General Plastics (India), 145, Industrial Estate,
Okhla, **New Delhi-20.**

78. Smt. M.P. Karnik,
Engineering Workshop,
Harihar Post, (**Mysore**).

79. Smt. Leela Shiveshwarkar,
4A/B, Pandara Road,
**New Delhi-3.**

80. Shri D.N. Lahiri,
Vice-President, Indian Small Scale Automobile Ancillaries Association, Everest House,
46C, Chowringhee Road, (6th Floor),
**Calcutta-16.**

81. Shri D.D. Basu, Member-Secretary.
Industrial Adviser, Office of the Development Commissioner, Nirman Bhawan,
**New Delhi-11.**

## II VARIOUS COMMITTEES OF SMALL SCALE INDUSTRIES BOARD

| Sl. No. | Name of the Committee | Date of appointment |
|---|---|---|
| 1 | 2 | 3 |
| 1. | Sub-Committee to examine the implications of the proposals for financing small scale industries. | At 3rd meeting of the SSI Board held on 29th and 30th August, 1955. |
| 2. | Sub-Committee to examine the suggestions regarding establishment of Urban Co-operative Banks for channelising loans to small industrialists. | At 6th Meeting of the SSI Board held on 23rd and 24th May, 1956. |
| 3. | Committee to examine the short and long term measures which should be taken for training of skilled workers and supervisors in small industries. | At 7th meeting of the SSI Board held on 17th and 18th September, 1956. |
| 4. | Standing Committee of the SSI Board. | At 9th meeting of the SSI Board held on 28th and 29th September, 1957. |
| 5. | Technical Training Committee. | At 10th meeting of the SSI Board held on 21st and 22nd January, 1958. |
| 6. | Working Group on Procedure for distribution of loans to small units. | —do— |

| 1 | 2 | 3 |
|---|---|---|
| 7. | Committee on Ancillary Industries. | At 3rd meeting of the Standing Committee of the SSI Board held on 9th August, 1958.<br>At 5th meeting of the Standing Committee.<br>19th meeting on 15th and 16th November 1961, 22nd meeting on 13th and 14th August, 1964. |
| 8. | Committee on establishment of Small Industries Associations. | At 12th meeting of the SSI Board held on 3rd, 4th and 5th November, 1958. |
| 9. | Committee on Power Supply. | At 13th meeting of the SSI Board held on 11th and 12th May, 1959. |
| 10. | Committee to examine the possibilities of expediting deliveries of iron and steel. | At 14th meeting held on 5th, 6th and 7th October, 1959. |
| 11. | Committee to examine the different Acts and advise how best the small industrial units could be assisted in overcoming their difficulties. | —do— |
| 12. | Working Group to examine and formulate the plan for development of small scale industries during Third Five Year Plan period. | —do— |
| 13. | Committee to examine the various returns, forms and registers to be maintained by small industrialists under various Acts. | At 13th meeting of the SSI Board held in May, 1959. |
| 14. | Sub-Committee on Credit Facilities. | At 6th meeting of the Standing Committee of the SSI Board held on 14-8-1959. |
| 15. | Committee on Industrial Estates. | At 5th meeting of the Standing Committee of the SSI Board held on 6th April, 1959. |
| 6. | Committee to examine the question of laying down targets for the development of Chemical Industries in the small scale sector. | At the 6th meeting of the Standing Committee of the SSI Board held on 14th August, 1959. |
| 17. | Committee on Dispersal of Industries. | At 16th meeting of the SSI Board held on 29th and 30th April, 1960. |
| 18. | Committee on Small Scale Industries Productivity Team Report. | At 16th meeting of the SSI Board held on 29th and 30th April, 1960. |
| 19. | Committee on improved tools to artisans. | At the 18th meeting of the Board held on 29th and 10th February, 1961. |
| 20. | Committee on Raw Materials. | At the 7th meeting of the Standing Committee of the SSI Board held in August, 1960. |
| 21. | Standing Committee on Raw Materials. | At 20th meeting of the SSI Board held on 2nd and 3rd April, 1962. |
| 22. | Sub-Committee for the revision of definition of small scale industries. | At 9th meeting of the Standing Committee of the SSI Board held on 9-1-1962. |
| 23. | Committee on Rural Industrialisation. | At 20th meeting of the SSI Board held on 2nd and 3rd April, 1962. |
| 24. | Committee on Scarce Raw Materials. | At 22nd meeting of the SSI Board held on 13th and 14th August, 1964. |
| 25. | Committee to examine the existing powers of the CSIO. | At the 24th meeting of the SSI Board held on 8th and 9th July, 1966. |
| 26. | Committee on the Working of the State Small Industries Corporations. | At the 24th meeting of the SSI Board held on the 8th and 9th July, 1966. |
| 27. | Study Team on Obsolescence of Machinery. | At 25th meeting of the SSI Board held on 8th and 9th August, 1967. |
| 28. | Study Team on Recession in the small scale sector. | —do— |
| 29. | Standing Committee on Raw Materials. | At 1st meeting of the Official Level Committee of the SSI Board held on 27th February, 1967. |
| 30. | Standing Committee on Credit Facilities. | —do— |
| 31. | Standing Committee on Ancillary Industries. | —do— |
| 32. | Standing Committee on Export Promotion. | —do— |
| 33. | Panel for Electronic Industry. | —do— |
| 34. | Panel for Plastic Industry. | —do— |
| 35. | Panel for Ceramic Industry. | —do— |
| 36. | Panel for Agricultural Implements. | —do— |
| 37. | Panel for Organic Chemicals. | —do— |
| 38. | Panel for Machine Tools Industry. | —do— |

# 12

## PUBLICATIONS

**This Compendium contains the names of publications which are brought out by the DC(SSI) and SISIs. The publications include those which are priced as well as unpriced.**

## PUBLICATIONS OF THE SMALL SCALE INDUSTRIES DEVELOPMENT ORGANISATION

### *I—Model Schemes*

| Scheme No. 1 | Title 2 |
|---|---|
| 7 | Panel Pins & Wire Nails |
| 9 | Writing Inks |
| 10. | Milk of Magnesia |
| 11 | Nickel Sulphate |
| 13 | Cast Iron Soil Pipes |
| 14 | Sheep Skin Tannery |
| 15 | Refining Saltpetre |
| 18 | Electroplating Unit |
| 19 | Common Crockery Wares & Low Tension Insulators |
| 20 | Roofing Tiles |
| 21 | Storage Batteries |
| 22 | Electrical Accessories |
| 23 | Glass Beads |
| 25 | Sole Leather |
| 27 | Plastic Toys and Plastic Articles |
| 28 | Holdalls |
| 29 | Leather Goods Manufacturing Unit |
| 30 | Cast Iron Foundry |
| 33 | Model Carpentry Workshop |
| 35 | Hexagonal & Square Head Machine Screws |
| 36 | A Pattern Shop |
| 37 | Brass Utensils |
| 38 | Liquor Ammonia |
| 40 | Vacuum Flask Industry |
| 41 | Glass Ampoules |
| 42 | Glass Phials |
| 43 | Neon and Glow Sign Industry |
| 44 | Scientific Glass Apparatus |
| 45 | Paints and Varnishes |
| 46 | Footwear |
| 48 | Specialised Lady Shoe Production Unit |
| 53 | Chalk Crayons |
| 54 | Cycle Saddle Tops (Leather) |
| 55 | Vitreous Enamel Wares |
| 57 | Fractional H.P. Motors (Fitted into Electric Hand Tools) |
| 58 | Fractional H.P. Motors (Split Phase-Squirrel Cage Induction Type) |
| 61 | Cycle Dynamos with Lamp Fittings |
| 62 | Electric Motors (1/6 to 10 H.P.) |
| 63 | Thermostatic Controlled Electric Irons |
| 64 | Automobile Electrical Accessories |
| 66 | Domestic Electric Appliances |
| 67 | Batteries |
| 68 | Assembly of Radio Sets for Medium Wave Band |
| 69 | Automobile Dynamos |
| 70 | Loud Speakers |
| 71 | Small Chokes & Transformers |
| 72 | A Small Carpentry Unit |
| 73 | Buff Calf Leather for Chappal Uppers |
| 74. | Leather Jerkins |
| 75 | Cemented Sandals |
| 76 | Chrome Laces |
| 80 | Cast Iron Metric Weights |
| 82 | Polythene Packing Material |
| 83 | Box & Willow Sides |
| 85 | Drawing & Filter Papers |
| 87 | Safety Pins |
| 89 | Mosaic Floor Tiles |
| 90 | Hand Moulded Fire Bricks and Special Refractory Shapes |
| 91 | Table Blowing Glass Toys and Biological Birds |
| 92 | Decorated Glass Wares |
| 94 | Fruit & Vegetable Preservation |

| 1 | 2 |
|---|---|
| 95 | Cutting of Glass Articles |
| 96 | Hollow Glass Beads |
| 97 | Star Delta Starters and Metal Clad Switches |
| 98 | Salt Glazed Sewer Pipes |
| 99 | Shuttlecocks |
| 100 | Transfer Decoration, Gold Lining and Painting on Crockery Articles |
| 102 | Boot Polish |
| 103 | Stainless Steel Utensils |
| 104 | Electric Motors (1 to 10 H.P.) |
| 105 | Footwear Factory (With capital investment of Rs. 34,000/-). |
| 106 | Footwear Factory (with capital investment of Rs. 19,000/-). |
| 108 | Chrome Pigments |
| 107 | Western Type Footwear |
| 109 | Absorbent Cotton |
| 110 | Steel Furniture |
| 111 | Clinical, School Type and Industrial Thermometers. |
| 112 | Glass Toys |
| 113 | Combined Switch Fuses (Iron Clad) |
| 114 | Bolts and Nuts of Mild Steel |
| 119 | Aluminium Hinges, Tower Bolts and Socket Bolts |
| 123 | Braided Cords and Tapes with Elastic Threads |
| 126 | Glass Items Specially Suitable for Advertisements and Publicity |
| 127 | Sodium Silicate |
| 128 | Production of Garments |
| 129 | Industrial Alcohol |
| 130 | Pilot Foundry for Jobbing Works |
| 131 | Staple Pins |
| 132 | Sodium Sulphide |
| 133 | Manufacture of Bone Meal |
| 134 | Carrom Boards |
| 135 | Automobile Repair Shop |
| 136 | Splints and Veneers |
| 137 | Rubber Moulded Goods |
| 138 | Manufacture of Mirrors |
| 139 | Medium Size Saw Mill |
| 140 | General Heat Treatment Shop |
| 141 | Pendulum Clocks |
| 142 | Scientific and Graduated Glass Apparatus |
| 143 | Fire Clay Bricks |
| 144 | Carbon Papers and Typewriter Ribbons |
| 145 | Umbrella Assembly Unit |
| 146 | Graphite Crucibles (Clay Bending) |
| 147 | Chamois Leather |
| 148 | Manufacture of Glue from Tannery Waste |
| 149 | Chappals with Indigenous Upper Material Leather Linings etc. |
| 150 | Manufacture of Football Covers |
| 151 | Hand Lift Pumps and Centrifugal Circulating Pumps and Fittings |
| 152 | Tennis and Badminton Rackets |
| 153 | Western Type Gents' Shoes and Chappals |
| 154 | Type Foundry |
| 155 | Blackheat Malleable Iron Foundry |
| 156 | Chappals of All Varieties |
| 157 | Children's Footwear |
| 158 | Dust Shield (Leather) |
| 159 | Nylon Fishing Nets |
| 160 | Leather for Sports Goods |
| 161 | Bag Tanned Sole Leather |
| 162 | Finishing Centre for Bag Tanned Sole Leather and Kattai Leather |
| 163 | Plastic Raincoats |
| 164 | Flaying and Carcass Bye Products |
| 165 | Reinforced Cement Concrete Spun Pipes |
| 166 | Glass Kid |
| 167 | Glass Tubes |
| 168 | Trouser Buckles |
| 169 | Ammunition Boots |
| 170 | Rough Blanks for Hockey Blades |
| 171 | Sponge Rubber Chappals |
| 172 | Retreading of Old Motor Tyres |
| 173 | Canning of Fish or Prawns |
| 174 | Upholstery Leather |
| 175 | Bicycle Button Bracket Axles |
| 176 | Production of Suede Garments Leather |
| 177 | Galvanised Ice Cans |
| 178 | Bleach Liquor |
| 179 | Water Proof Packing Paper |
| 180 | Aluminium Stearate |
| 181 | Wood Planer Knives |
| 182 | A.C. Electricity Meters |
| 183 | Fluorescent Tube-light, Lamps and Festoon Bulbs |
| 184 | Artificial Teeth from Methyl Methacrylate Polymer |
| 185 | Vices (Mechanics' Vice and Pipe Vice) |
| 186 | Legguards and Gloves |
| 187 | Cold Rolled Mild Steel Butt Hinges |
| 188 | Belt Lacing |
| 189 | Running Shoes and Football Boots |
| 190 | Crushed Bones for Export |

| 1 | 2 |
|---|---|
| 191 | Spindle Type Speed Counters |
| 192 | Fractional H.P. Motors |
| 193 | Spanners and Hand Tools |
| 194 | Chemical Stoneware, Rashing Rings, Pipes etc. |
| 195 | Two Ganged Tuning Condensers |
| 196 | School Type Industrial and Precision Thermometers |
| 197 | Cattle Feed |
| 198 | Chrome Retanned Leather from Rejected Goat Skins |
| 199 | Rubber Canvas Transmission Belts |
| 201 | 100 Pairs of Cemented Chappals |
| 202 | Pickled Goat Skins for Export |
| 203 | Reptile Leather |
| 205 | Industrial Safety Goggles and Coloured Filters |
| 206 | Speedometer Cables |
| 207 | Biological Models |
| 210 | Felspar Quartz Unit to Serve the Glass Ceramic Industry |
| 211 | Plastic, Rubber and Asphalt Tiles |
| 212 | Industrial Gloves (Chrome Leather Splits) |
| 213 | Chrome Retanned Side Leather |
| 214 | Cashew Kernels |
| 215 | Citrus Fruit Products |
| 216 | 25 Pairs of Gents Shoes and 50 Pairs of Chappals per Day |
| 217 | Suitcase and Attache Case (Hand Made) |
| 218 | Monumental/Torch Stones |
| 219 | Optical Equipment |
| 220 | Soap Based Detergent Powder |
| 221 | Citral From Lemon Grass Oil |
| 222 | Plastic Articles of Assorted Varieties (25 days a month) |
| 223 | Bakery Products |
| 224 | Ionone From Lemongrass Oil |
| 225 | Leather Goods |
| 226 | Pick Axes |
| 227 | Rice Huller Screens |
| 229 | Stud Openers |
| 230 | 100 Inspection (Surface) Plates and Straight Edges for Machine Shop per Month |
| 231 | Poultry Appliances |
| 232 | Cemented Chappals (Leather to Leather) |
| 233 | Bangle Glass |
| 234 | Block Glass |
| 235 | Embroidered Desi Juties 24 Pairs per day (Working 25 days a month) Production Shoe Lasts Stuck on Manufacture |
| 236 | Magnasite Nozzels |
| 237 | Mechanised Bakery Manufacturing White Bread |
| 238 | Interchangeable Ground Glass Joints |
| 240 | Leather Garments |
| 241 | Machine Made Building Bricks & Blocks |
| 242 | Fabrication of Welded Structures, Tanks, M. S. Stagings, Chemical Vessels, Aluminium Tanks, Girders, Columns, Roof Trusses, Gates, Grills etc. |
| 243 | P.V.C. Tapes, Sleevings and Strips |
| 244 | Card Board Slates |

### *II—Impact Schemes*

| Inpeet Scheme No. | Title |
|---|---|
| 1 | 2 |
| 1 | Gem Clips and Paper Pins |
| 2 | Metal Cutting Hacksaw Blades |
| 3 | Machine Tools |
| 4 | Packing Cases |
| 5 | General Blacksmithy Unit |
| 6 | Cutlery Items |
| 7 | Metal Pedalling Cars and Jeeps |
| 8 | Drawing Boards & Tee Squares |
| 9 | Bicycle Carriers |
| 10 | Enamelled Signboards & Hollow-wares |
| 11 | Pressed Electrical Insulators |
| 12 | Table Moulded Building Bricks |
| 13 | Lens of Different Powers for Spectacles |
| 14 | Fruit & Vegetable Preservation and Canning |
| 15 | Mechanical Plastic Toys |
| 16 | Blue Cut Tacks |
| 17 | Bakelite Moulding |
| 18 | Gaseous Oxygen |
| 19 | Wrought Iron & Cast Iron Pulleys |
| 20 | High Speed Steel Milling Cutters |
| 21 | Bottle Cleaning Twisted in Wire Brushes |
| 22 | Jobbing Workshop |
| 23 | Electroplating of Motor Cycles and 3 Wheeler Components |
| 24 | Belting Leather |
| 25 | Round Drums |
| 26 | Casing, Capping and other Electrical Accessories |
| 27 | Black Tapes for Electrical Wiring in Calender Machine or by Doctor's Blade Technique. |
| 28 | Fire Works Factory |

| 1 | 2 |
|---|---|
| 29 | Anodizing and Dyeing of Aluminium and its Alloys |
| 30 | Bakelite Parts |
| 31 | M.G. Corrugating & Coarse Wrapping Paper |
| 32 | Art Paper and other Coated Papers |
| 33 | Card Board Boxes, Cartons, Posters, Calenders etc. |
| 34 | Call Bells |
| 35 | Metal Tripod Stand for Cameras |
| 36 | Drafting Stand |
| 37 | Padlocks |
| 38 | Jobbing Workshop for Manufacture of Hand Tools |
| 39 | Scent Bottles |
| 40 | Rubber Toys and Articles by Plaster Casting Process |
| 41 | Production of Doors and Windows on Commercial Basis |
| 42 | Link Clips |
| 43 | Quality Photo Frames and Painted Photo Frames |
| 44 | Paper Pins |
| 45 | Gem Clips (One Million Numbers) |
| 46 | Machined Bolts and Nuts |
| 47 | M.S. Washers |
| 48 | Mechanical Toys, Motor Cars, Buses, Lorries, Locomotives, Drum Beating Monkeys |
| 49 | Automobiles, Locomotives, Aeroplanes, Ships and Tankers |
| 50 | Mechanical Toys Operated by Springs |
| 51 | C.T.S. Electric Cables |
| 52 | Laundry Irons |
| 53 | Cycle Tyres and Tubes |
| 54 | Plastic Buttons by Compression Moulding |
| 55 | Cricket Bats |
| 56 | Volley Ball Nets |
| 57 | Coil Spring for Valves used in Fuel Engines |
| 58 | A.C.S.R. Conductors |
| 59 | Card Board from Waste Paper |
| 60 | Instrument Gears of All Types |
| 61 | Collets |
| 62 | Indigosols |
| 63 | Phenyle, D.D.T. Dusting Powder and D.D.T. Spray |
| 64 | Cups and Saucers |
| 65 | ½″ Brass Cocks (Screw Down Type) |
| 66 | Spring Washers |
| 67 | Mild Steel Split Cotter Pins |
| 68 | Aluminium Utensils |
| 69 | Grease Nipples |
| 70 | Non-Ferrous Metric Weights |
| 71 | Aluminium Sulphate, Magnesium Sulphate |
| 72 | Sewing Machine Hand Attachments |
| 73 | Woollen Mufflers |
| 74 | Table Glass Blowing Machinery and Equipment |
| 75 | Sewing Machine |
| 76 | Voice Coils for Loudspeakers |
| 77 | Articles from Perspex Sheets |
| 78 | Sewing Machine and Parts |
| 79 | Hot Dip Galvanising of Miscellaneous Articles |
| 80 | White Buck Leather |
| 81 | Chappal Factory |
| 82 | Water Meters |
| 83 | Horse and Bullock Shoe Nails |
| 84 | Gem Clips |
| 85 | Paper Pins (22 Tons per annum) |
| 86 | Machine Vices |
| 87 | Wooden Fittings and Accessories for Electric Wiring |
| 88 | Drafting Machines for Drawing Offices |
| 89 | Tagaries (Mortar Pans) |
| 90 | 'U' Clamps and Centre Bolts of Automobile Springs |
| 91 | Panel Pins Making Machine |
| 92 | Crank Shaft Forgings |
| 93 | Sealing Wax |
| 94 | Bicycle Handles |
| 95 | Dipped Goods from Latex |
| 96 | Cycle Brake Parts |
| 97 | Cycle Pedals |
| 98 | Shoe Uppers (300 pairs) |
| 99 | Children Shoes |
| 100 | Small Springs |
| 101 | Bicycle Hubs |
| 102 | Shoe Tacks |
| 103 | Bevel Gears |
| 104 | Concrete Jalli |
| 105 | Paper Pins (6½ tons per Annum) |
| 106 | Fractional H.P. and other Small Electrical Motors |
| 107 | Milling Cutters |
| 110 | Cycle Tubes and Toys Balls |
| 111 | Stone Ware Jars |
| 112 | Hand Press Machine |

| 1 | 2 |
|---|---|
| 113 | Bicycle Chains |
| 114 | Stainless Steel Utensils |
| 115 | Jobbing Workshop |
| 116 | Plaster of Paris |
| 117 | Furniture |
| 118 | Bicycle Mudguards |
| 119 | Buckles |
| 120 | Jacob Type Chucks |
| 121 | Precision Shoe Lasts |
| 122 | Pliers, Pincers and Nippers |
| 123 | Rubber Insulated Cables |
| 124 | Tools |
| 125 | Call Bells and Buzzers |
| 126 | Steel Castings |
| 127 | Fire Bricks (90,000 per month) |
| 128 | Automobile Spares (Liners and Pistons) |
| 129 | Jobbing Workshop for Agricultural Implements |
| 130 | Horse and Bullock Shoe Nails |
| 131 | Braided Shoe Laces and Cords |
| 132 | Heating Elements |
| 133 | Glazed Wall Tiles |
| 134 | Steel Melting by Electric Furnace |
| 135 | Plastic Gem Clips |
| 136 | Spanners for Automobiles |
| 137 | Chappals |
| 138 | Neutral and Soda Glass Tubings and Laboratory Chemical Glassware |
| 139 | Furniture, Doors and Windows |
| 140 | Buckets |
| 141 | Acetylen Generators and Cylinder Stands |
| 142 | Slates |
| 143 | Automobile Components such as Studs, Screws, Bolts and Nuts and Pinsets |
| 144 | Paint Brushes |
| 145 | Air Guns |
| 146 | Cycle Seat (Complete) |
| 148 | Photo Flash Bulbs |
| 149 | Sanitary Brass Fittings (Cistern Valves, Stop Cocks etc.) |
| 150 | 8″ Re-rolling Mill for Steel Billets and Steel Scrap etc. |
| 151 | Wood Screws |
| 152 | Sawing and Wood Seasoning |
| 153 | Wooden Toy Industry |
| 154 | Handlooms and its Accessories |
| 155 | Picker Savers from Buffalo Hide |
| 156 | All Glass Syringes |
| 157 | A Small Unit for Centreless Grinding |
| 158 | Lining Leather |
| 159 | Belting Leather |
| 160 | Live Centres, (Ball Bearing Centres), Plain Lathe and Grinding Centres, Drilling Sleeves and Sockets |
| 161 | Domestic Electric Appliances, (Electric Heaters, Hot Plates, Electric Irons and Toasters) |
| 162 | Potassium Chloride from Sea Bitterns |
| 163 | Metal Labels by Photo Anodising Process |
| 164 | High Alumina Refractories |
| 165 | Colouring of Aluminium Surfaces (Anodising and Fabrication Combined) |
| 166 | Wood Wool |
| 167 | Bailing Hoops and Box Strappings |
| 168 | Wire Staples |
| 169 | Ungraded Brass Wire Drawing Plant |
| 170 | Radio Chassis |
| 171 | Bob Pins and Hair Pins |
| 173 | Miniature Lamps |
| 174 | Garment Hooks and Eyes |
| 175 | Typewriter Ribbons |
| 176 | Sanitary Wares and Electrical Low Tension Insulators |
| 177 | Central Painting and Enamelling Unit for Bicycle Industry |
| 178 | Assembly of Fluorescent Lamp Starters |
| 179 | Paper Cones and Paper Tubes |
| 180 | Steel Trusses |
| 181 | Simple Microscopes and Telescopes |
| 182 | Mechanics Hand Tools |
| 183 | Precision Tool Room for Precision Instrument Industries |
| 184 | Drawing Instruments |
| 185 | Furniture (560 Chairs and 190 Tables per month) |
| 186 | Umbrella Ribs (Flexus Type) |
| 187 | Gang Operated Air Break Switches |
| 188 | Gasmeter and Governor Diaphragm Leather |
| 189 | Gland Packing for Locomotive Piston Rods |
| 190 | Pen Type Electrical Potential Testers |
| 191 | Reeled Sewing Thread |
| 192 | Precision Plain Cylindrical Plug Gauges |
| 193 | Graded Graphite Powder |
| 194 | Cams for Automatic Screw Machines |
| 195 | Silencers for Automobiles |
| 196 | Radial Drilling Machines |
| 199 | Type Foundry |
| 200 | Cutlery Items |

| 1 | 2 |
|---|---|
| 201 | Bicycle Chain Wheel and Cranks |
| 202 | Rice Huller C.I. Shells |
| 203 | Brass But Hinges |
| 204 | Railway Signal Equipment |
| 205 | Heel Building for Footwear |
| 207 | Paper Knives |
| 209 | Sole Leather Tannery |
| 210 | 3 Jaw Self Centering Precision Lathe Chucks |
| 213 | Hollow Glass Wares |
| 214 | Agriculture Machinery |
| 215 | Gudgeon Pins |
| 216 | Aluminium Decorative Articles |
| 217 | 4 Jaw Independent Lathe Chucks |
| 218 | Cut Throat Razors |
| 219 | Steel Balls |
| 220 | Educational Toys |
| 221 | Cast Iron Rain Water Pipes |
| 222 | Industrial Keys |
| 223 | Nu-Buck Leather |
| 224 | Spacing Insulators, Aerial Fuses etc. (Capacity 220 Tons per Annum) |

### *III—Small Industries Guides*

| | |
|---|---|
| 1 | Bolts and Nuts |
| 2 | Leather Chappals for Export |
| 3 | Gummed Paper Tape |
| 5 | Kolhapuri Chappals |

### *IV—Feasibility Reports*

| | |
|---|---|
| 1 | Mechanised Fishing Boats (Kerala State) |

### *V—TBTs (Booklets under "Towards Better Techniques" Series)*

| TBT No.<br>1 | Title<br>2 |
|---|---|
| 85 | Shop Tools –Their Use and Maintenance Twist Drill |
| 86 | Right Leather for Right Jobs--Leather Tops for Cycle Seats |
| 87 | Joining of Metals—Forge Welding |
| 89 | Right Leather for Right Jobs—Finishing of Leather Tops for Cycle Seats |
| 90 | Some Data on Brick Manufacture (Part I) |
| 91 | Right Leather for Right Jobs—Solid Round Leather Belting for Industrial use by Vegetable Tannage (Part III) |
| 92 | —do— (Part IV) |
| 93 | Nickeling of Brass Stitch Buttons |
| 94 | Hints for the Manufacture of Electric Motors |
| 95 | Food Colours |
| 96 | Manufacture of Malt Vinegar |
| 97 | Pickles |
| 98 | Fruit Preservation Methods-1 |
| 99 | Fruit Preservation Methods-2 |
| 100 | Business Partnership |
| 101 | Manufacture of Sealing Wax |
| 102 | Welding Frames, Common Welding Faults and their Rectification |
| 103 | Compounding of Rubber |
| 104 | Selection of Grinding Wheels |
| 105 | Prime Quality East India Tanned Skins |
| 106 | Heat Treatment of Parts from Mild Steel-I |
| 107 | Heat Treatment of Parts from Mild Steel-II |
| 108 | Design of Pattern in Foundries (1) |
| 109 | Design of Pattern in Foundries (2) |
| 110 | Electroplating Problems and their Remedies |
| 111 | Defects in Castings and their Remedies |
| 112 | Applications of Jigs and Fixtures |
| 113 | Slate Pencils—Common Defects, Causes and Remedies |
| 114 | Blue Black Writing Ink—Its Manufacture Troubles and Remedies |
| 115 | Stainless Steel in Model Surgical Instruments |
| 116 | Induction Motors, Trouble and their Remedies |
| 117 | Care and Maintenance of Storage Batteries |
| 118 | Design of Patterns in Foundries (3) |
| 119 | Troubles of Storage Batteries—Their Symptoms, Causes and Remedies |
| 120 | Electric Hand Tools (Care and Maintenance) |
| 121 | Electroplating Problems and their Remedies (2) |
| 122 | Rewinding of 3 Phase Induction Motors |
| 123 | Industrial Cooperatives for Small Industrialists |
| 124 | Short Notes on Central Sales Tax Act 1956 |
| 125 | Acetylene Generators for Low Pressure Welding Plant |
| 126 | Production of Football Leather |
| 127 | Efficient Industrial Purchasing |
| 128 | Better Leather by Improved Tools |
| 129 | Sodium Silicate |
| 130 | Glue Manufacture from Fleshings |
| 131 | Foundry Practice—Methods of Running and Risering |
| 132 | Care and Maintenance of Belts in Workshop |
| 133 | Rust—A Source of Industrial Waste |
| 134 | Simplified Chrome Tanning |
| 135 | Malleable Iron Casting |

| 1 | 2 |
|---|---|
| 136 | Metal Polishing—Methods of Technique |
| 137 | Micrometer and Vernier Calipers |
| 138 | Principles of Cost Accounting |
| 140 | Materials—Purchasing Storing and Accounting |
| 141 | Press Tools |
| 142 | Principles of Canning |
| 143 | Spoilage Organisms in Canned Foods |
| 144 | Canned Pineapple Products and their Manufacture |
| 145 | Hot Dip Galvanizing Process |
| 146 | Machine Tools Building |
| 147 | Factory Planning for Increased Productivity |
| 148 | Neon and Glow Signs |
| 149 | Roller Skins from E.I. Tanned Sheep Skins |
| 150 | Drying of Pottery Ware |
| 151 | Pottery Glazing |
| 152 | Drawing Tools |
| 153 | Fine Earthen Ware |
| 154 | Improved Business Correspondence |
| 155 | Effective Business Correspondence |
| 156 | Porcelain Enamelled Hollow Wares, Manufacture Defects—Cause and Remedies |
| 157 | Improved Hand Tools for Carpenters |
| 158 | Stealite Radio Insulators |
| 159 | Finishing of Electric Motor Bodies |
| 160 | Internal Business Organisation |
| 161 | Proto-Type Machines |
| 162 | Gating-Pouring and Risering of Castings |
| 163 | Incentives—Financial and Non-financial |
| 164 | Office Management for Small Unit |
| 165 | Production Planning |
| 166 | Deep Drawing of Sheet Metals |
| 167 | Depreciation Methods |
| 168 | How to Manufacture Football |
| 169 | Melting of Aluminium Alloys |
| 170 | Right Approach to Shoe Last Making |
| 171 | Agra Type of Bottom Shoe Finishes |
| 172 | Induction Motors |
| 173 | Export Marketing |
| 174 | Basic Consideration for Setting up a Small Scale Unit |
| 175 | Economics of Quality |
| 176 | Chrome Tanning of Cow Hides followed by Chinese |
| 177 | Chamois Leather |
| 178 | Toggle Clamps |
| 179 | A few Suggestions for Better Personal Relations |
| 180 | Trade Marks Act, 1940 |
| 181 | Factories Act, 1948 |
| 182 | Indian Contract Act, 1872 |
| 183 | Worker's Compensation Act, 1923 |
| 184 | Channels of Distribution—How to Market New Products |
| 185 | Salesman's Selling Tools |
| 186 | Salesman's Expense Control |
| 187 | Clock Designs |
| 188 | Design and Manufacture of Jigs and Fixtures |
| 189 | Machinery and Plant Layout |
| 190 | Defects in Welding and Methods of Testing of the Same |
| 191 | Method of Calculating Consumption of Oxygen and Acetylene Gas for Welding |
| 192 | Tube Bending and Loading Materials |
| 193 | Foundry Sand Control |
| 194 | Casting Defects due to Moulding Sand |
| 195 | How to Determine the Skill and the Effort of a Worker |
| 196 | Noise Free Induction Motors |
| 197 | Industrial Leather |
| 198 | Footwear (Modern Method of Production) |
| 199 | Thermometers |
| 200 | Purification of Mercury |
| 201 | Bearings |
| 202 | Practical Methods of Liming in Tanning Industry |
| 203 | East India Tanning Process for Goat-skins |
| 204 | Drop Forging |
| 205 | Safety Measures for a Foundryman |
| 206 | Electric Motors |
| 207 | Cutting Speeds and Feeds |
| 208 | Diaphragm Leather |
| 209 | Full Chrome Gloving Leather |
| 210 | Gilding |
| 211 | Metallurgical Consideration for Quality Production of Machine Tool Castings |
| 212 | Chemical Analysis and Brass |
| 213 | To Cut Metric Threads on an Ordinary Lathe Having English Threads |
| 214 | Sheet Iron Vitreous Enamelling |
| 215 | Indexing |
| 216 | Match Plates with Plaster |
| 217 | Upsetting |
| 218 | Quick Preparation of Moulds and Cores by Carbon Di-oxide Process |
| 220 | French Polish and Bleaching of Shellac |
| 221 | Gears |

| 1 | 2 |
|---|---|
| 222 | Installation and Levelling of the Lathe |
| 223 | Alignment of Superheterodyne Radio Receivers |
| 224 | End Sealing of Tubular Elements |
| 225 | Cutting Oils for Machining Operation |
| 227 | Suede Dyeing |
| 228 | Binders in Foundry Sands |
| 229 | Wedge Chill Test in C.I. Foundries |
| 230 | Vanishing Cream |
| 231 | Proper Technique for the manufacture of Best Quality Leather Shoes on Mechanised Line |
| 232 | White and Khaki Blanco used as a Shoe Polish for Canvas Shoes |
| 233 | Workshop Practice in Machinery of Plastics |
| 234 | Single Spindle Automatic Screw |
| 235 | Silver Plating |
| 236 | Barrel Nickel Plating |
| 237 | Process for Applying Anti Tarnish Coating on Brass Articles |
| 238 | Principles of Electroplating of Gold and Gold Alloys |
| 239 | Service Data Charts for Servicing Super Heterodyne Receivers |
| 240 | Airforce Derby Shoes |
| 241 | Gaggers, Chapplets and Wadges for the use in the Foundries |
| 242 | Tarnish Resistant Film on Brass Articles |
| 243 | Shrinkage and Contraction of Casting Alloys |
| 244 | Prevention of Slag from Entering the Mould in a Cast Iron Foundry to Get Good Castings |
| 245 | General Information to an Operator regarding Cupola Charge |
| 246 | Enamelled Photo Stones for Rings and Pendants |
| 247 | Barrel Plating |
| 248 | Stainless Steel and Their Heat Treatment |
| 249 | Boiled Linseed Oil |
| 250 | Safety Precautions in the Plating Shop |
| 251 | Phosphating of Iron and Steel Components Prior to Painting |
| 252 | Inspection of Zinc, Cadmium and Tin Plated Coatings |
| 253 | Chromate Films |
| 254 | Pickling and Rust Preventive Methods of Iron and Steel Parts |
| 255 | Electro Deposition of Copper from Acid Baths |
| 256 | Neutral Copper Plating on Glass Mirrors |
| 257 | Chemical Etching and Milling |
| 258 | Die Steel and Their Heat Treatment |
| 259 | Preparation of Insole for Hand Welted Shoes |
| 260 | Cemented Shoes and Sandals |
| 261 | Reclaiming Scrap Rubber |
| 262 | Fused Bi-Focal Lenses |
| 263 | Metal Colouring |
| 264 | Selection of Refractory Materials |
| 265 | Properties of Refractory Materials |
| 266 | Chrome Tanned Goat Skins for Export in 'Blue' Condition |
| 268 | Tabulation of Plastic Properties |
| 269 | Plastic Adhesives |
| 270 | Silicon Rubber Finds Many Uses |
| 271 | P.V.C. Coated Paper Board and other Fabric Specially for Packing Purposes (Micro Coating) |
| 273 | Chrome Sole Leather |
| 274 | Master Rubber Mould for Plaster Casts |
| 275 | White Chrome Lining Leather |
| 276 | Lapping Work in Tool Room Practice |
| 277 | Coloured Glass and Artificial Gems |
| 278 | Piercing Tools for Sheet Metal work |
| 279 | Circular Form Tools for Automatics |
| 280 | Know More About Lime and Lines Stone |
| 281 | Improved Methods of Curried Vegetable |
| 282 | Plastic in Varnishes Lacquers |
| 283 | Sole Leather by Suspender Circulator Method |
| 284 | Plastic Coating for Leather |
| 285 | Common Tools Used in Hammer Forging |
| 286 | Single Points Tools |
| 287 | Metal Spinning |
| 288 | Better Methods and Materials Used in the Bottom Filling Operation of Closed Type of Footwear |
| 289 | Scientific Volumetric Glass Wares |
| 290 | Some Hints on Use of Proper Raw Material of Tooling |
| 291 | Rubber Stamps |
| 292 | Preparation of Oil of Ginger and Oil of Pepper by Steam Distillation |
| 293 | Dehydration of Vegetables |
| 294 | Processing of Transfer Paper for Printing Class Transfers |
| 295 | Proper Method of Fitting and Closing of Oxford Shoes Upper |
| 296 | Lubrication |
| 297 | Know Your Foundry Sand |
| 298 | Coloured Finish of Bottom Sole (Pigment Finish of Sole) |

| 1 | 2 |
|---|---|
| 299 | Device for Skiving Leather Toe Puff and Stiffners by Sole Splitting Machines |
| 300 | Pickles |
| 301 | How to prepare Gents Chappals with Telephone Cord and its Casting |
| 302 | Properties of Tools Steels |
| 303 | Reinforced Cement Concrete Products like R.C.C. Spun Pipes etc. |
| 306 | Modern Process on the Manufacture of Raw Hide Pickers Pretanned with Calgon |
| 307 | Modern Process on the Manufacture of Vegetable Tanned Belting Leather Pretanned with Calgon |
| 308 | Modern process on the manufacture of Picking Bands vegetable Tanned Pretanned with Calgon |
| 309 | What is Broaching |
| 310 | Manufacture of Industrial Ceramics |
| 311 | Spark Erosion Machining and Appliances |
| 312 | Processing of Animal Intestines into Natural Sausage Castings |
| 313 | Trouble Shooting an Electric Motors |
| 314 | Work Accuracy and Maintenance of Machine Tools |
| 318 | Manufacture and Application of Carbide Tipped Tools (Single Paint) |

### *VI—Analysis and Planning Reports*

| Report No.<br>1 | Title<br>2 |
|---|---|
| 1(N) | Sports Goods (Northern Region) |
| 1(S) | Sports Goods (Southern Region) |
| 2 | Sewing Machines and Parts (All India) |
| 3 | Bicycle Parts (All India) |
| 4(E) | Leather Footwear (Eastern Region) |
| 4(W) | Leather Footwear (Western Region) |
| 4(S) | Leather Footwear (Southern Region) |
| 6 | Bicycle Rickshaw Parts Industry in Bihar |
| 7 | Hand Tools (All India) |
| 9 | Boot Polish (All India) |
| 10 | Electric Brass Lamp Holders (All India) |
| 11(E) | Electric Porcelain Wares (Low Tension) (Eastern Region) |
| 11(S) | Electric Porcelain Wares (Low Tension)(Southern Region) |
| 13 | Automobile Leaf Springs (All India) |
| 14 | Agricultural Implements (All India) |
| 15 | Fruit & Vegetable Preservation & Canning Industry (All India) |
| 16(S) | Glass Bangles (Southern Region) |
| 17 | Padlocks (All India) |
| 19 | Industrial Fasteners (All India) |
| 20 | Glass Beads (All India) |
| 21 | Diesel Engines (Stationary Type) (All India) |
| 22 | Scientific Glass Apparatus (All India) |
| 23 | Wood Screws, Wire Nails & Panel Pins (All India) |
| 24 | Domestic Utensils (All India) |
| 25 | Cotton Textile Machinery Spare Parts (All India) |
| 26 | Umbrella Ribs (All India) |
| 27 | Machine Tools (All India) |
| 28 | Surgical Instruments (All India) |
| 30(E) | Soap Industry (Eastern Region) |
| 31 | Paint, Varnish and Lacquer Industry (All India) |
| 32 | Plastic & Rubber Covered Wire (All India) |
| 33(S) | Sanitary Fittings (Southern Region) |
| 33(N) | Sanitary Fittings (Northern Region) |
| 34(N) | Cutlery (Northern Region) |
| 35(N) | G.I. Malleable Pipe Fittings Industry (Northern Region) |
| 35(S) | Pipe Fittings (Southern Region) |
| 36(S) | Umbrella Assembly Industry (Southern Region) |
| 39(W) | Domestic Electrical Appliances (Motor Type) (Western Region) |
| 39(N) | Domestic Electrical Appliances (Motor Type) (Northern Region) |
| 40(W) | Picking Band & Leather Belting (Western Region) |
| 41)N) | Domestic Electrical Appliances (Heater Type) (Northern Region) |
| 41(S) | Domestic Electrical Appliances (Heater Type) (Southern Region) |
| 41(W) | Domestic Electrical Appliances (Heater Type) (Western Region) |
| 41(E) | Domestic Electrical Appliances (Heater Type) (Eastern Region) |
| 42(S) | Plastic Goods Industry (Southern Region) |
| 43(W) | Industrial Rubber Goods (Western Region) |

| 1 | 2 |
|---|---|
| 44(S) | Synthetic Diamond Cutting (Southern Region) |
| 45(S) | Woodbased Industry (Southern Region) |
| 46(E) | Flash Light Cases (Torches) (Eastern Region) |
| 48(S) | Leather Goods (Southern Region) |
| 49(S) | Electric Motors (Southern Region) |
| 47(N) | Three Mineral Acides (Sulphuric, Hydrochloric & Nitric) (Northern Region) |
| 50(S) | Bakelite Electrical Accessories (Southern Regions) |
| 51(S) | Automobile Body & Trailor Building (Southern Region) |
| 53 | Scientific Instruments (All India) |
| 55(S) | Foundry Industry (Southern Region) |
| 56 | Brushware Industry (All India) |
| 57(S) | Leather Tanning Industry (Southern Region) |
| 58 | Domestic Wireless Receiver Sets, Components and Accessories (All India) |
| 59 | Electric Fans (All India) |
| 60 | Oil Stoves and Pressure Lamps (All India) |
| 61 | Electric Motors (All India) |
| 62(N) | Wooden Furniture (Northern Region) |
| 63 | Toys & Dolls Industry (All India) |
| 64 | Leather Tanning Industry (All India) |
| 66 | Malleable Casting Industry (All India) |
| 67 | Pressure Die Casting (All India) |
| 68 | Cement Products (All India) |
| 69 | Pharmaceuticals (All India) |

### *VII—Statistical Reports*

| 1 | 2 |
|---|---|
| 1 | A Statistical Analysis of Small Scale Units of Footwear and Other Leather Product Industry |
| 2 | Pattern of Investment by Source of Capital of Small Industrial Unit in Eight Industrial Estates |
| 3 | Small Scale Units of Bicycles and Bicycle Industry |
| 4 | Soap Industry |
| 5 | Diesel Oil Engines and Parts |
| 6 | Surgical Instruments |
| 7 | Scientific Glassware and Apparatus |
| 8 | Sports Goods Industry |
| 9 | Sewing Machine and Parts |
| 10 | Paints and Varnishes |
| 11 | Small Machines and Machine Tools Industry |

### *VIII—Technical Experts Reports*

| 1 | 2 |
|---|---|
| 6 | Technical Training Committee Report |
| 7 | Drawing and Surveying Instruments |

### *IX—Other Publications*

| Sl. No. | Title |
|---|---|
| 1 | Facilities for Small Industries—What and Where Available ? |
| 2 | Report of the International Perspective Planning Team |
| 3 | Report of the Sub-Committee on Industrial Estate |
| 4 | You and the Plan |
| 5 | Design Aid for Small Industries |
| 6 | Small Scale Industries and Government Stores Purchase Programme |
| 7 | Assistance Programme for Small Industries in India |
| 8 | Lessons for Blue Print Reading Classes |
| 9 | Financing Small Industries through Cooperative Banks |
| 10 | Compendium of Lectures and Courses Study Conducted during the Second Ad Hoc Training Course in Industrial Economic Investigation in 1956 |
| 11 | Industrial Survey of J & K State |
| 12 | Evaluation Report of the Working Group on Small Scale Industries |
| 13 | Report of the Japanese Delegation of Small Scale Industries |
| 14 | Report of the Working Group on Programme of Work for the Third Five Year Plan |
| 15 | Assembly and Manufacture of Clocks, Time Pieces and Watches |
| 16 | Report on Small Industry in India by F.J.N. Stades |
| 17 | Manufacture of Radio Components of large and Small Scale Sector—Licensing Policy and Procedure |
| 18 | Report of Committee on Dispersal of Industries |
| 19 | Report on the Intensive Campaign in the Districts of Cannanore, Palghat, Quilon and Alleppy (Kerala State) |

| Sl. No. | Title |
|---|---|
| 20 | Government Assistance to Small Industries in the U.K. |
| 21 | Report of Study Team of CSIO on visit to the Scandinavia and Netherlands |
| 22 | Rural Industrial Estate |
| 23 | Report of the Committee on Scarce Raw Materials |
| 24 | Choose Your Small Industry |
| 25 | Financing of Small Scale Industries in India |
| 26 | Study of Industrial Estate No. 2 |
| 27 | Technical Management Consultancy Service for Small Industry |
| 28 | Stories of Successful Entrepreneurs |
| 29 | Industrial Estate in India |
| 30 | Brochure of Products Manufactured by Small Scale Industries |
| 31 | India Can Assist You |
| 32 | Small Scale Industries in Perspective |
| 33 | Small Scale Industries in India (Souvenir) |
| 34 | Report of Ad Hoc Committee on Paints Industry |
| 35 | Small Scale Industries Programme of Work for the Fourth Five Year Plan |
| 36 | Report on Industrial Potentiality Survey in Nagaland |
| 37 | Seminar on Small Scale Automobile Ancillaries |
| 38 | Ad-hoc Committee on Power & Functions of the Organisation of the Development Commissioner (Small Scale Industries Report) |
| 39 | Small Industries Assistance Programme in India by K.L. Nanjappa |
| 40 | Financial Assistance to Small Scale Industries in the Union Territory of Delhi |
| 41 | Brochure on Credit Facilities for Small Scale Industries |
| 42 | Successful Exporters |
| 43 | Proceedings of the Seminar on the Development of Ancillary Industries by Public Sector Undertakings, held at Bangalore on 3rd & 4th April, 1970 |
| 44 | Small Scale Industries with Export Potential |
| 45 | Proceedings of All India Seminar and Exhibition on Optical and Ophthalmic Industry |
| 46 | Manual of Third Ad-hoc Orientation Training Course |
| 47 | Scheme for Ancillary Industrial Estate for Scooter/Motor Cycle |
| 48 | Export Opportunities for Small Industry Products in Kenya |
| 49 | Directory of Management Courses |
| 50 | Use Your Opportunities for Starting a Small Industry |

| Sl. No. | Title |
|---|---|
| | *X—Annual Reports* |
| 1 | Report on the Working of the Small Scale Industries Organisation 1956-57 |
| 2 | Report on the Working of the Small Scale Industries Organisation 1957-58 |
| 3 | Small Scale Industries Organisation Report for 1958-59 |
| 4 | Small Scale Industries Organisation Report for 1959-60 |
| 5 | Small Scale Industries Organisation Report for 1960-61 |
| 6 | Small Scale Industries Organisation Report for 1961-62 |
| 7 | Small Scale Industries Organisation Report for 1962-63 |
| 8 | Small Scale Industries Organisation Report for 1963-64 |
| 9 | Small Scale Industries Organisation Report for 1964-65 |
| 10 | Small Scale Industries Organisation Report for 1965-66 |
| 11 | Small Scale Industries Organisation Report for 1966-67 |
| 12 | Small Scale Industries Organisation Report for 1967-68 |
| 13 | Small Scale Industries Organisation Report for 1968-69 |
| | *XI—Design for Small Industries* |
| 1 | Design for Industry No. 1 |
| 2 | Design for Industry No. 2 |
| 3 | Design for Industry No. 3 |
| 4 | Design for Industry No. 4 |
| 5 | Design for Industry No. 5 |
| | *XII—Publicity Folders* |
| 1 | Information Service for Small Scale Industries |
| 2 | Assistance Programme for Small Industries in India |
| 3 | Small Scale Industries at a Glance |
| 4 | Training Programme of Central Small Industries Organisation |
| 5 | Credit Facilities for Small Scale Industries |
| 6 | Industrial Extension Service for Small Industry |
| 7 | Rural Industries Projects—Facts at a Glance |
| 8 | Industrial Estate Programme in India |
| 9 | Management and Technical Consultancy Services |
| 10 | Industrial Extension Service for Small Scale Industries |
| 11 | Small Scale Industries and Government Stores Purchase Programme |

# 13

## 13. PRODUCTS ON WHICH TESTING FACILITIES ARE AVAILABLE IN NATIONAL LABORATORIES

- Automobile Ancillaries and I.C. Engines
- Electrical Instruments
- Electro-Acoustic Equipments
- Electronic Equipments
- Engineering Materials
- Optical Equipments
- Scientific Instruments (Mech.)
- Abbreviations Used

| Items<br>1 | Test performed<br>2 | Name of the Laboratory<br>3 |
|---|---|---|
| | AUTOMOBILE ANCILLARIES & I.C. ENGINES | |
| Air Filters | Pressure drop air flow. Individual cycle efficiency. Dust retaining efficiency with air flow. | C.M.E.R.I., Durgapur. |
| Automatic Fan Belt | Testing. | —do— |
| Fuel Oil Filter | Flow ratio pressure drop curve & cleaning efficiency. | —do— |
| Lube-Oil Filter | Cleaning efficiency Life Test. | —do— |
| Radiators | Performance. | —do— |
| | ELECTRICAL INSTRUMENTS | |
| Ammeters | Testing:<br>Calibration, Reading accuracy.<br>Testing | C.S.I.O. Chandigarh.<br>N.P.L., New Delhi.<br>CMERI Durgapur. |
| Attenuators | Attenuation accuracy electrical impedance. | N.P.L., New Delhi. |
| Domestic Appliances like refrigerators, soldering iron, electric lamps and fans, hot plates, kettle, immersion heaters, fluorescent lamp chokes, switches. | Electric test. | N.P.L., New Delhi. |

| 1 | 2 | 3 |
|---|---|---|
| Frequency Meters (Pointers & Vibrating read type) | Testing<br>Microwave freq. meter. | C.S.I.O., Chandigarh.<br>N.P.L., New Delhi. |
| Galvanometers | Sensitivity, accuracy, damping, etc.<br>Resistance, sensitivity and accuracy. | C.S.I.O., Chandigarh.<br>N.P.L., New Delhi. |
| Graphic Recording instruments | Testing. | C.S.I.O., Chandigarh. |
| Insulation Resistance Testers. | Accuracy test, voltage at terminals & ripple content, errors due to level, high voltage test, errors due to stray magnetic field, endurance test, insulation resistance. | C.S.I.O., Chandigarh.<br>N.P.L., New Delhi. |
| Moving Coil Galvanometers. | Testing to ISI specifications. | C.S.I.O., Chandigarh. |
| Ohmmeters | Testing. | C.S.I.O., Chandigarh.<br>N.P.L., New Delhi. |
| Power Factor Meter | Testing. | C.S.I.O., Chandigarh.<br>N.P.L., New Delhi. |
| Post Office Box | Calibration,<br>DC-resistance at small current. | N.P.L., New Delhi. |
| Portable multipurpose electrical indicating instrument. | Insulation resistance test; high voltage test; damping test, over-load test.<br>Variation in indication test; vibration test; dry heat test, dry cold test, accelerated damp heat test, life test. | C.S.I.O., Chandigarh.<br>N.P.L., New Delhi. |
| Potentiometers | Reading accuracy. | C.S.I.O., Chandigarh. |
| Resistances | | C.S.I.O., Chandigarh. |
| Resistance Box | | C.S.I.O., Chandigarh. |
| Ratiometers | Testing | C.S.I.O., Chandigarh. |
| Thermocouples/Pyrometers. | Testing | C.S.I.O., Chandigarh. |
| Thermo Couples | Calibration | N.P.L., New Delhi. |
| Voltmeters | Testing<br>Testing & Calibration | C.S.I.O., Chandigarh.<br>N.P.L., New Delhi. |
| Wattmeters (Single phase & poly-phase) | Testing | C.S.I.O., Chandigarh.<br>N.P.L., New Delhi. |
| Wheatstones bridge & Kelvin bridge. | Testing | C.S.I.O., Chandigarh. |
| | ELECTRO-ACOUSTIC EQUIPMENTS | |
| Audio-meters | Threshold sound pressure for air conduction. Hearing loss interval. Frequency accuracy. Harmonic distortion Noise. Line voltage effect. | N.P.L., New Delhi. |

| 1 | 2 | 3 |
|---|---|---|
| Auditoria, Conference Hall. | Reverberation time. Sound distribution. Echoes. Ambient Noise. | N.P.L., New Delhi. |
| Ear-phones. | Frequency response. Sound pressure output. Harmonic distortion. Electrical impedance. Articulation test. | N.P.L., New Delhi. |
| Electro-acoustic appliances. | Testing. | C.E.E.R.I., Pilani. |
| Electric motor sirens. | Sound power output. Frequency analysis. Effect of warbling. Electrical tests. | N.P.L., New Delhi. |
| Gramophones, Pick-ups, Record-players. | Frequency response. Harmonic distortion. Wow and flutter test. Noise. | N.P.L., New Delhi. |
| Hearing aids | Frequency response. Harmonic distortion. Noise, Gain. Output sound pressure. Battery voltage effect. Ear defenders. | N.P.L., New Delhi. |
| Loud-speakers | Frequency response. Output pressure. Directionality in planes. Harmonic distortion. Efficiency. Leakage resistance. Electrical impedance. Resonance frequency. Strength of magnetic field. Peak power capacity. Mechanical & climatic tests. | N.P.L., New Delhi. |
| Microphones | Frequency response. Free field sensitivity. Directivity in planes. Harmonic distortion. Dynamic range. Electrical impedance. | N.P.L., New Delhi. |
| Magnetic Sound Track and Magnetic Recording Tapes | Recording characteristics. Playback charcteristics. Frequency response. Harmonic distortion. Hum and noise. Wow and flutter. Output power. Gain. Rated input voltage. Maximum permissible input voltage. Electrical impedance, Dynamic range. Erasion efficiency. | N.P.L., New Delhi. |
| Magnetic tape-recorders | Recording characteristics. Play-back charactertistics. Frequency response. Harmonic distortion. Hum and noise. Wow and flutter. | N.P.L., New Delhi. |
| Motor Car Horns | Sound intensity. Frequency analysis. Mechanical & Electrical Test. | N.P.L., New Delhi. |
| Optical Sound Track | Frequency response. Harmonic distortion. Hum & Noise. Wow & Flutter. Output power. Gain. Electrical impedance. Dynamic range. Optical & diamentional tests. | N.P.L., New Delhi. |

| 1 | 2 | 3 |
|---|---|---|
| Sound Insulating Materials | Reverberation method. Impedance tube method. Noise measurement and analysis at site. | N.P.L., New Delhi. |
| Sound Absorbing materials | Reverberation method. Impedance and tube method. | N.P.L., New Delhi. |
|  | ELECTRONIC EQUIPMENTS |  |
| A.F. Oscillators | Dial accuracy. Frequency linearity. Harmonic distortion. Hum & Noise. Electrical impedance. Output voltage. | N.P.L., New Delhi. |
| Audio Frequency power meter | Electrical impedance. Power accuracy. | N.P.L., New Delhi. |
| Amplifiers | Frequency. Response. Harmonic distortion. Gain. Hum & Noise. Electrical Impedance. | N.P.L., New Delhi. |
| Battery | Testing | Central Electro-Chemical Research Institute, Karaikudi, (Tamil Nadu) |
| Counters & Time interval meters | Testing/calibration. | C.S.I.O., Chandigarh. |
| Condensers | Capacity. P.F. Insulation and Voltage proof. Climatic and durability test. | C.S.I.O., Chandigarh. |
| Electric Motors | Electrical testing. | N.P.L., New Delhi. |
| Electronic Instruments | Testing | CMERI, Durgapur (W. Bengal) |
| Electronic Instruments for measurement of pressure, strain displacement, vibration, temperature, digital system. | Testing and calibration. | N.A.L., Bangalore. |
| Instrument transformer testing sets. | Testing | C.S.I.O., Chandigarh. |
| Inductance | Self inductance only. | C.S.I.O., Chandigarh. |
| Moisture Meter | Calibration | C.S.I.O., Chandigarh. |
| Mains Transformer | Tests to I.S. specification. | N.P.L., New Delhi. |
| Motor Starters | Electrical testing. | N.P.L., New Delhi. |
| Materials, components & equipments | Climatic & durability test. | C.S.I.O., Chandigarh. |
| Oscillators | Testing | C.S.I.O., Chandigarh. |
| Power Supply Units | Checking | C.S.I.O., Chandigarh. |
| Pulse Generator | Climatic and durability. | C.S.I.O., Chandigarh. |

| 1 | 2 | 3 |
|---|---|---|
| Radio Receiver | Testing | N.P.L., New Delhi. |
| Railway Relays | Electrical Testing. | N.P.L., New Delhi. |
| Signal Generator | Testing | N.P.L., New Delhi. |
| Transformer for high voltage discharge tube | Testing | N.P.L., New Delhi. |
| Television Receiver | Testing | N.P.L., New Delhi. |
| Vacuum Tube voltmeter | Testing | N.P.L., New Delhi. |
| Wires & Cables | Fatigue test. Electric conductivity test. Tensile strength. Torsion test. Wrapping test. Specific Resistance. Fire resistance Test. Thermal Conductivity. Tensile property and Thermal conductivity test. | N.P.L., New Delhi.<br>N.A.L., Bangalore.<br>CMERI, Durgapur. |
|  | ENGINEERING MATERIALS |  |
| Adhesive insulating tapes and electrical insulators | Thermal conductivity. | N.P.L., New Delhi. |
| Building Stone | Compressive Strength Transverse Strength Abrasion test. | S.E.R.C., Roorkee. |
| Burnt Clay Building brick | Compressive strength. Water absorption. | S.E.R.C., Roorkee. |
| Carbon brushes | Electrical tests | N.P.L., New Delhi. |
| Ceramics | Thermal Shock Test. Co-efficient of liner expn. Firing test. Abrasion Resistance. Absorption test. | C.G. & C.R. Institute, Jadavpur. |
|  | Main constituents. | CMERI, Durgapur. |
| Crystals | Fatigue, fracture and creep of materials. | N.A.L., Bangalore. |
| Concrete | Proportioning a concrete mix. Crushing strength of cubes. Flexural strength test of beams. Stress-strain curves of concrete. | S.E.R.C., Roorkee. |
| Electrodes & Metal Arc Welders | Testing. Qualifying Test. | C.M.E.R.I., Durgapur. |
| Fuels and Lubricants | Testing | C.M.E.R.I., Durgapur. |
| Glass | Refractive Index. | NPL., New Delhi. |
|  | General Examination. | C.S.I.O. Chandigarh. |
|  | Thermal endurance. Thermal Shock Test. Co-efficient of thermal expansion. Softening point. | C.G. & C.R.I., Jadavpur. |
| Mica | Power factor, Lost factor. Dielectric constituent. D.C. Resistivity. Di-electric strength at power frequency. Electrical quality test. Stability under heat & pressure. Break-down test. Flexibility & tensile strength. | C.G. & C.R.I., Jadavpur. |

| 1 | 2 | 3 |
|---|---|---|
| Magnetic Materials | Permeability. Magnetic Particle Testing. | N.P.L., New Delhi. |
| Metals and non-metals | Transverse strength and co-efficient of friction. Compression Test of materials. | N.P.L., NeW Delhi. |
| Materials | Fatigue testing. Hardness test. Shearing test. Impact test. | C.M.E.R.I., Durgapur. |
| Metals | Stress/strain Graph compressive test. | S.E.R.C., Roorkee. |
|  | Conductivity, pH, Polarograph & Micro-hardness. | Central Salt & Marine Chemicals Research Instt., Bhavnagar. |
|  | Micro-structure and micro-hardness. | C.M.E.R.I., Durgapur. |
| Ores & Minerals | Chemical Analysis. | C.M.E.R.I., Durgapur. |
| Paper | Bursting strength. Tearing strength. Tensile strength. Folding endurance. Absorbancy test. | Regional Research Laboratory, Hyderabad. |
| Quartz | Complete analysis. | R.R.L., Hyderabad. |
| Rods | Transverse test. Torsion test. Bend Test. | C.M.E.R.I., Durgapur. |
| Springs | Torsion Test. | C.M.E.R.I., Durgapur. |
|  | Notch Toughness. Tensile Properties. Thermal expansion coeffition. | C.S.I.O., Chandigarh. |
| Steels, Cast Iron & Copper base alloys and Aluminium Alloys | Stress/Straingraph. Testing of tensile strength. Compressive test. | S.E.R.I., Roorkee. |
|  | Chemical analysis. | C.S.I.O., Chandigarh. |
|  | Micro-structure of steel alloys. Micro-hardness. Permeability. | C.S.I.O., Chandigarh.<br>C.M.E.R.I., Durgapur. N.P.L., New Delhi. |
| Transformer Oil | Electrical Tests. | N.P.L., New Delhi. |
| Varnishes & Lacquers. | Identification. Solubility behaviour.<br>Vehicle analysis. Analysis of Lacquers. | C.S.I.O., Chandigarh.<br>The Silk & Art Silk Manufacturers' Industrial Research Association, Bombay. |
|  | Testing of Shellac, Wax and Lac. | R.R. L., Hyderabad. |
| Weldings, Castings and Forgings | Ultrasonic Testing.<br>Testing of welded rod in tension. | C.M.E.R.I., Durgapur.<br>S.E.R.C., Roorkee. |
| Yarns | Elastic recovery. Thermal insulation. Percentage elongation, at break, dry and wet. Percentage of moisture content. Dimensional tests. Strength, stiffness test. Testing of water-proofing agent. Melting point of thermo-plastic fibres. | The Silk and Art Silk Manufacturers' Industrial Research Association, Bombay. |

| 1 | 2 | 3 |
|---|---|---|
| | OPTICAL EQUIPMENTS | |
| Binoculars | Abberation. Resolving power. Magnifying power. | C.S.I.O., Chandigarh. |
| Glasses | Colour measurement of railway signals and other glasses by spectro-photo metric method. | N.P.L., New Delhi. |
| Lamps | Luminous flux of lamps. Colour temperature of tungsten lamps. | N.P.L., New Delhi. |
| Polorimeter | Testing. | N.P.L., New Delhi. |
| Photographic lenses | Complete testing. Radius of curvature of lenses. | C.S.I.O., Chandigarh. |
| Prism | Measurement of prism complete. | C.S.I.O., Chandigarh. |
| Projector systems | Measurement of illumination at screen. | C.S.I.O., Chandigarh. |
| Spectrometer | Servicing of NMR and Mass spectrometers.<br>Checking. | National Chemical Laboratory, Poona.<br>C.S.I.O., Chandigarh. |
| Spectro-photometer | UV visible and IR spectro-photometer servicing. | National Chemical Laboratory, Poona. |
| Telescope | Checking of optic alignment. Abberation. Resolving power. Magnifying power. Field of View equivalent focal length. Measurement of resolution of telescope objective. | C.S.I.O., Chandigarh. |
| | SCIENTIFIC INSTRUMENTS (MECHANICAL) | |
| Angle Gauzes | Checking/calibration. | C.M.E.R.I., Durgapur. |
| Clinometer | Checking/calibration. | C.M.E.R.I., Durgapur. |
| Dial indicators | Calibration | C.S.I.O., Chandigarh. |
| Flow Meters | Calibration | C.M.E.R.I., Durgapur. |
| Frame levels | Calibration | C.S.I.O., Chandigarh. |
| Hardness Testing Machine | Calibration & testing. | N.P.L., New Delhi. |
| Micrometers | Calibration/checking. | C.M.E.R.I., Durgapur. |
| Moistmeters | Calibration | C.SI.O., Chandigarh. |
| Precision Spirit level | Checking/calibration. | C.M.E.R.I., Durgapur. |
| Plain Levels | Calibration | C.S.I.O., Chandigarh. |
| Pressure Gauges | Calibration | C.S.I.O. Chandigarh.<br>C.M.E.R.I., Durgapur. |

| 1 | 2 | 3 |
|---|---|---|
| Profile Projectors | Inspection | C.S.I.O., Chandigarh. |
| Pumps | Performance Test. | C.M.E.R.I., Durgapur. |
| Pilot Tubes | Co-efficient of tube and calibration. | C.M.E.R.I., Durgapur. |
| Slip Gauzes | Checking/calibration. | C.M.E.R.I., Durgapur. |
| Stop Watch | Testing adjustment. | N.P.L., New Delhi. |
| Tension & Compression Testing Machine | Calibration/testing. | N.P.L., New Delhi. |
| Torque-meter | Calibration/testing. | N.P.L., New Delhi. |
| Tuning Fork | Frequency accuracy. Decay rate. | N.P.L., New Delhi. |
| Thermometers | Calibration | N.P.L., New Delhi. |
| Turbidimeters | Testing | N.P.L., New Delhi. |
| Universal Testing Machine | Calibration/testing. | N.P.L., New Delhi. |
| Vernier Height Gauzes | Calibration/checking. | C.M.E.R.I., Durgapur. |
| Viscometer | Calibration | N.P.L., New Delhi. |
| Vernier Calipers | Calibration | C.M.E.R.I., Durgapur.<br>C.S.I.O., Chandigarh. |

## ABBREVIATIONS USED

1. C.G. & C.R.I.—Central Glass & Ceramic Research Institute, Calcutta.
2. C.E.C.R.I.—Central Electro-Chemical Research Institute, Karaikudi-3 (Tamil Nadu)
3. C.E.E.R.I.—Central Electronics Engineering Research Institute, Pilani.
4. C.M.E.R.I.—Central Mechanical Engineering Research Institute, Mahatma Gandhi Avenue, Durgapur.
5. C.S.I.O.—Central Scientific Instruments Organisation, Chandigarh.
6. N.A.L.—National Aeronautical Laboratory, Post Box-4, Bangalore-17.
7. N.C.L.—National Chemical Laboratory, Poona-8.
8. N.P.L.—National Physical Laboratory, Hillside Road, New Delhi-12.
9. R.R.L.—Regional Research Laboratory, Hyderabad-9.
10. SASMIRA—The Silk & Art Silk Manufacturers' Industrial Research Association, Dr. Annie Besant Road, Worli, Bombay.
11. S.E.R.C.—Structural Engineering Research Centre, Roorkee (U.P.).

# 14

## PROCEDURE TO OBTAIN FOREIGN COLLABORATION IN INDIA

**14. FOREIGN COLLABORATION**

PROCEDURE TO OBTAIN FOREIGN COLLABORATION IN INDIA

The Government of India gives encouragement to the proposals which seek foreign collaboration either in the form of technical know-how or in the financial involvement in manufacture of products which are export-oriented and those which are likely to lead to any import-saving. Proposals for such industries which involve end-products which are significantly important to the Defence Organisation, are also favourably considered. The main idea behind the policy of foreign collaboration is to attract foreign capital participation in the field of such industrial activities as the country needs to develop. As stated earlier, the collaboration can be in the form of financial involvement in a project particularly the one which requires imported machinery and equipment. Government is also keen that the Indian workmen acquire technical skill of a very high order and, for this, Government is prepared to consider proposals for foreign collaborations to seek technical know-how. Nevertheless, before a proposal is finally approved, due consideration is given to the indigenous availability of the equipment as well as technical know-how so that by allowing foreign collaboration in these fields, the local demand does not suffer in any way.

Previously foreign collaboration proposals were being considered by more than one office with the result that the disposal of the proposals often got delayed. Since 1st December, 1968 Government of India has constituted a Foreign Investment Board in the Ministry of Industrial Development and Internal Trade to deal with all such cases involving foreign collaboration except those in which total investment exceeds Rs. 20 million of equity capital and where the foreign investment exceeds 40 per cent of the equity capital. Further, certain guidelines have been laid down for processing applications for foreign collaboration and investment. While these guidelines are normally being followed, certain realizations are sometimes considered necessary in the case of applications for foreign collaboration from small scale industrial units. While considering the proposals for foreign collaboration from small scale industrial units, the following principles are being kept in view:-

(a) The foreign collaboration should be for a fixed period and normally it should not exceed 5 years though, in exceptional cases, this ceiling may be relaxed.

(b) There should be no restrictions on exports of the products to be manufactured to any country.

(c) The royalty to be paid on the foreign investment will not exceed normally 3 per cent of the value of trunover. In exceptional cases, it may be allowed upto 5 per cent.

(d) There should be no restrictions that particular products, components, materials, etc. will be imported only from the foreign collaborator. The Indian firm should have the freedom of choice in importing the products from any country.

(e) Stress should be laid on the manufacture of complete items within the country. Schemes involving imports of parts and components, should include provision for the parts and components to be taken up for manufacture indigenously as per a phased programme. A time-limit should be fixed for the manufacture of all parts and components indigenously as early as possible.

(f) Foreign brand names should not be allowed while approving foreign collaborations in the large scale sector as the use of such brand names adversely affects the indigenous production and competitive strength of the small scale sector.

(h) Normally, the equity investment from abroad in small scale sector should not be encouraged. However, if without this the know-how is not available, the proposal may be considered favourably and to the extent that the proposals relate to payments for know-how only, they should be considered more liberally than cases of the large scale industrial units.

(i) In the matter of imposing export obligation, small scale units will be treated more leniently.

The procedure to seek approval of a proposal for foreign collaboration is very simple. The Indian entrepreneur seeking collaboration has to obtain prior approval of the Government of India. The draft agreement and proposal should be submitted to the Foreign Investment Board in the Ministry of Industrial Development and Internal Trade, New Delhi, through the State Directorate of Industries. Details regarding the foreign exchange commitments, import of machinery and plant, raw materials, components, services of foreign experts, training of Indian personnel and payment of royalties should also be given along with the application. The above procedure is applicable to all industrial units, whether existing or new, which seek foreign capital participation or technical collaboration with a foreign firm.

# 15

## FINDING OF THE CENSUS OF MACHINE TOOLS CONDUCTED IN 1968

**15. FINDINGS OF MACHINE TOOLS**

FINDING OF THE CENSUS OF MACHINE TOOLS CONDUCTED IN 1968

(THE CENSUS OF MACHINE TOOLS COVERING MORE THAN 10,000 LIVE UNITS IN THE SMALL SCALE SECTORS OF INDUSTRY WAS CONDUCTED IN 1968)

One of the most interesting facts revealed by the 1968 census is that, contrary to expectations, there are today more Indian than foreign machine tools installed in the country.

Other key findings, of the census and age-survey of machine tools installed in all the major machine tools using industries in the country, are these:

There are a little over 382,000 machine tools installed in India. These include machine tools in practically all large and small industrial units, technical training institutions and as far as was obtainable, machine tools used for maintenance.

The percentage of Indian to foreign machines as installed in 1968 was 63.4 per cent indigenous and 36.4 per cent foreign machines. In 1949, barely two decades back, the installed pattern was practically the reverse. In that year, almost 65.7 per cent of the machines were imported machines, and barely 34.3 per cent were of Indian manufacture.

Only 36.3 per cent of the total machine tools installed are over 10 years old—the age at which machine tools are generally considered obsolete. Again 16 1 per cent of the machines are over 20 years. Compared to USA, UK and some of the other countries, India has a far greater percentage of machines under 10 years, and far less machines over 20 years.

### Industry Analysis

*Large and Small Scale Industry*

Of the total of over 382,000 machine tools installed in India in 1968, 220,600 or approximately 57.7 per cent are in the large scale sector and 161,600 or approximately 42.3 per cent in the small scale sector. Machine tools for maintenance and technical institutions are included in the large scale sector.

In the case of metal cutting, more machine tools (nearly 60 per cent) are installed in the large scale sector and only 40 per cent in the small scale sector.

As regards machine tools for forming metal, the installation pattern is reverse, more metal forming machines (54.9 per cent) are installed in the small scale sector as against 45.1 per cent in the large scale sector. The main reason for this would appear to be that a large number of manually operated metal forming machines included in the Census are mainly in the small scale units.

In the case of joining machinery, the very large percentage of installation (72.8 per cent) in the large scale sector, is due mainly to preponderance of electric welding equipment in the large units, specially in the steel fabrication shops, automotive shops, and maintenance shops of the large units.

Other equipment mainly consists of plastic working machines. The relatively large number of manually operated injection-moulding machines, most of which are installed in the small units, is the main reason for the greater percentage, (54.9%) of other equipment in the small scale sector.

### Indian and Foreign Machines

*Distribution in Large and Small Units*

Whilst more than half of all machine tools installed are of indigenous manufacture, the break-up between the large scale and small scale units indicated that in the large scale units 53.2 per cent or just over half, are imported machines and only 46.8 per cent are indigenous. In the small scale, the pattern is very much the reverse, almost 86.4% of the machines are of indigenous manufacture and only 13.6 per cent of foreign manufacture.

In the large scale sector, in the case of metal cutting machines, the ratio of Indian to foreign metal cutting machines is 40.3 per cent to 59.7 per cent. For joining machines, the installation pattern shows a higher percentage, 52.5 per cent Indian to 47.5 per cent foreign, whilst in the case of other equipment the percentage (33.7 per cent) indigenous machines is the lowest of all groups.

In the small scale sector, the installation pattern in the case of metal cutting, metal forming and other equipment is fairly uniform at 86 per cent indigenous and 14 per cent imported. Only in the case of joining equipment it is slightly different, the indigenous machines being 76 per cent.

Section VIII

# SMALL INDUSTRY DEVELOPMENT

*(in charts)*

# 1

# SMALL INDUSTRY AND NATIONAL ECONOMY

## A PANORAMA OF PROGRESS

## A VITAL SECTOR OF THE NATIONAL ECONOMY

### CONTRIBUTION OF THE SMALL INDUSTRY SECTOR TO NATIONAL INCOME

| | 1960-61 | 1965-66 |
|---|---|---|
| D. C. (SSIO) UNITS | 1690 | 2530 |
| NON REGISTERED NON HOUSEHOLD UNITS WITHIN THE PURVIEW OF D. C. SSIO. | 2800 | 3800 |
| RS. MILLIONS | 4490 | 6330 |

## YEAR WISE PHENOMENAL GROWTH OF REGISTERED SMALL SCALE INDUSTRIAL ESTABLISHMENTS.

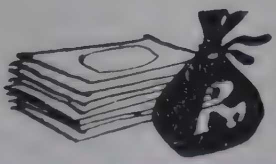
| YEAR | NO. |
|---|---|
| 1960-61 | 36,109 |
| 1961-62 | 55,241 |
| 1962-63 | 74,857 |
| 1963-64 | 92,583 |
| 1964-65 | 1,06,883 |
| 1965-66 | 1,21,619 |
| 1966-67 | 1,36,273 |
| 1967-68 | 1,61,865 |
| 1968-69 | 1,78,001 |
| 1969. 7C | 1,90,727 |

### SMALL INDUSTRY IS A BIG PARTNER

| EMPLOYMENT | | 1960-61 | 1965-66 | 1969-70 |
|---|---|---|---|---|
| TOTAL NO. OF PERSONS EMPLOYED IN INDUSTRY (FACTORY SECTOR) | IN MILLIONS | 3.60 | 4.40 | 4.53 |
| EMPLOYMENT ACCOUNTED BY SMALL SCALE INDUSTRIES SECTOR | | 1.39 | 1.43 | 1.86 |
| PERCENTAGE SHARE OF SMALL SCALE INDUSTRIES SECTOR | | 38.70 | 32.50 | 41.00 |

| INVESTMENT | 1964 | 1970 |
|---|---|---|
| FIXED CAPITAL INVESTED IN LARGE & SMALL SCALE INDUSTRY (FACTORY SECTOR) (IN RS. MILLIONS) | 20,020 | 1,02,890 |
| FIXED CAPITAL INVESTED IN THE SMALL SCALE INDUSTRIES (FACTORY SECTOR) (IN RS. MILLIONS) | 1,713·20 | 3,280 |

## SMALL SCALE INDUSTRIES SECTOR BOTH FACTORY AND NON-FACTORY SECTOR AS ON 31.3.70



| | | |
|---|---|---|
| EMPLOYMENT | | 6.3 MILLIONS |
| GROSS OUTPUT | RS. | 36,700 MILLIONS |
| INVESTMENT | RS. | 4,500 MILLIONS |

## SMALL INDUSTRY MOVEMENT THROUGH THE FIVE YEAR PLANS

### PLAN OUTLAY ON DEVELOPMENT OF SMALL SCALE INDUSTRIES

| | |
|---|---|
| FIRST PLAN | 50 |
| SECOND PLAN | 557 |
| THIRD PLAN | 1141 |
| FOURTH PLAN | 1233 |

## A COMPARATIVE STUDY OF SMALL MEDIUM & LARGE SCALE INDUSTRIES (1964-65)

| | SMALL RS. | MEDIUM RS. | LARGE RS. |
|---|---|---|---|
| FIXED CAPITAL REQUIRED PER EMPLOYEE. | 1835<br>8 % | 3818<br>16 % | 17711<br>76 % |
| VALUE ADDED BY MANUFACTURE PER UNIT OF EMPLOYMENT. | 2351<br>18 % | 3927<br>32 % | 6242<br>50 % |
| VALUE ADDED BY MANUFACTURE PER UNIT OF FIXED CAPITAL. | 1.28<br>48 % | 1.03<br>39 % | 0.35<br>13 % |

# REGISTERED. SMALL SCALE UNITS WITH THE STATE DIRECTORATES OF INDUSTRIES

| STATES/ UNION TERRITTORIES | NO. OF UNITS REGISTERED. 1968-69 |
|---|---|
| ANDHRA PRADESH | 12,600 |
| ASSAM | 804 |
| BIHAR | 2,381 |
| GUJARAT | 12,800 |
| HARYANA | 865 |
| J & K | 950 |
| KERALA | 6,140 |
| MADHYA PRADESH | 13,031 |
| MAHARASHTRA | 25,696 ✓ |
| MYSORE | 7,849 |
| ORISSA | 2,820 |
| PUNJAB | 25,495 |
| RAJASTHAN | 7,358 |
| TAMIL NADU | 15,982 |
| UTTAR PRADESH | 20,314 |
| WEST BENGAL | 15,056 |
| DELHI | 6,936 |
| GOA | 485 |
| HIMACHAL PRADESH | 93 |
| MANIPUR | 8 |
| PONDICHERRY | 250 |
| TRIPURA | 88 |
| TOTAL | 1,78,001 |

# 2

# INSTITUTIONAL CREDIT TO SMALL SCALE INDUSTRY SECTOR

AN INDISPENSABLE NEED

TO MAKE THE WHEELS OF INDUSTRY MOVE

## PROGRESS OF INSTITUTIONAL CREDIT TO SMALL INDUSTRY SECTOR

| DISBURSEMENT OF CREDIT RS. MILLIONS AS ON 31ST MARCH | 1962 | 1965 | 1969 |
|---|---|---|---|
| STATE GOVT. THROUGH STATE AID TO INDUSTRIES ACT | 40.40 (18%) | 138.90(13%) | 273 (10%) |
| COMMERCIAL BANKS (NATIONALISED)<br>STATE BANK OF INDIA & SUBSIDIARIES | 65.20<br>53.12<br>118.32 53% | 220.20<br>518.10<br>738.30 (72%) | 921.3<br>1088.0<br>2009.3(76%) |
| STATE FINANCE CORPORATIONS. | 64.40(29%) | 151.20 (15%) | 353.4 (14%) |
| | 223.12 | 1028.40 | 2635.7 |

## FINANCIAL ASSISTANCE TO SMALL INDUSTRY SECTOR I

STATE GOVERNMENTS
STATE AID TO INDUSTRIES ACT.

| YEAR | PARTIES ASSISTED | AMOUNT ADVANCED RS. MILLIONS |
|---|---|---|
| 1965-66 | 19638 | 37.1 |
| 1966-67 | 15529 | 34.3 |
| 1967-68 | 13990 | 30.6 |
| 1968-69 | 11459 | 32.2 |

## FINANCIAL ASSISTANCE TO SMALL INDUSTRY SECTOR II

STATE BANK OF INDIA AND SUBSIDIARIES.

| AS ON 31ST MARCH | PARTIES ASSISTED | AMOUNTS SANCTIONED RS. MILLIONS |
|---|---|---|
| 1962 | 3425 | 140.8 |
| 1963 | 4020 | 189.9 |
| 1964 | 5279 | 271.3 |
| 1965 | 8085 | 453.7 |
| 1966 | 10170 | 566.0 |
| 1967 | 14578 | 928.3 |
| 1968 | 18801 | 1190.5 |
| 1969 | 23614 | 1785.6 |
| 1970 | 36935 | 2769.1 |

## FINANCIAL ASSISTANCE TO SMALL INDUSTRY SECTOR III
## FINANCE CORPORATIONS OF STATES.

| AS ON 31ST MARCH | LOANS SANCTIONED | AMOUNTS SANCTIONED RS. MILLIONS |
|---|---|---|
| 1962 | 1505 | 117.8 |
| 1963 | 1873 | 144.1 |
| 1964 | 2236 | 176.3 |
| 1965 | 2667 | 201.8 |
| 1966 | 3149 | 230.7 |
| 1967 | 3784 | 286.1 |
| 1968 | 4606 | 372.4 |
| 1969 | 5609 | 473.0 |
| 1970 | 7876 | 731.0 |

## FINANCIAL ASSISTANCE TO SMALL INDUSTRY SECTOR IV
## CREDIT GUARANTEE SCHEME OPERATED BY RESERVE BANK OF INDIA

| AS ON | GUARANTEES NOS. | GUARANTEE CERTIFICATES ISSUED RS. MILLIONS |
|---|---|---|
| 31.3.62 | 2348 | 76.3 |
| 31.3.63 | 4589 | 166.0 |
| 31.3.64 | 8640 | 327.6 |
| 31.3.65 | 14581 | 587.0 |
| 31.3.66 | 27001 | 106.54 |
| 31.3.67 | 41532 | 1595.3 |
| 31.3.68 | 63037 | 2604.5 |
| 31.3.69 | 95986 | 4236.6 |

# 3

# TECHNICAL SERVICE BY S.S.I.D.O.

RIGHT AT THE VERY DOOR AND AT ALL STAGES OF DEVELOPMENT OF THE UNIT AND FREE OF COST

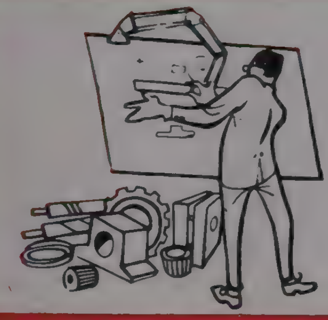
## EFFORTS OF SSIDO IN PROVIDING TECHNICAL KNOW-HOW.

| | ADVICES GIVEN ON TECHNICAL MATTERS | ADVICES GIVEN TO START NEW INDUSTRIES | TECHNICAL ADVICES RENDERED ON THE SPOT |
|---|---|---|---|
| 1960-61 | 34085 | 23169 | 43807 |
| 1961-62 | 41387 | 23531 | 46386 |
| 1962-63 | 49579 | 23919 | 48777 |
| 1963-64 | 52896 | 24995 | 52465 |
| 1964-65 | 52980 | 24569 | 50080 |
| 1965-66 | 57604 | 23614 | 56724 |
| 1966-67 | 57361 | 26221 | 58987 |
| 1967-68 | 66413 | 28810 | 64539 |
| 1968-69 | 71661 | 27552 | 66375 |
| 1969-70 | 84968 | 35641 | 69562 |

# DRAWINGS, DESIGNS & PROTOTYPES

PREPARED BY
CENTRAL INDUSTRIAL DESIGN CELL.

| | 1964-65 | 1965-66 | 1966-67 | 1967-68 | 1968-69 | 1969-70 |
|---|---|---|---|---|---|---|
| DESIGNS | 95 | 75 | 96 | 79 | 92 | 164 |
| DRAWINGS | 186 | 163 | 110 | 134 | 109 | 152 |
| PROTOTYPES | 38 | 8 | 20 | 15 | 31 | 14 |
| BLUEPRINTS | – | 1501 | 587 | 416 | 351 | 470 |



SMALL INDUSTRIES SERVICE INSTITUTES

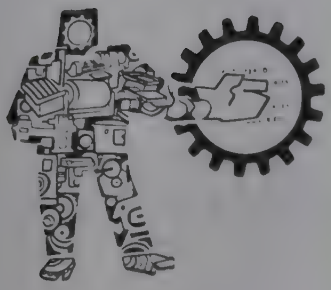
| | 1964-65 | 1965-66 | 1966-67 | 1967-68 | 1968-69 | 1969-70 |
|---|---|---|---|---|---|---|
| DESIGNS & DRAWINGS | 3425 | 4416 | 4570 | 10000 | 8500 | 4100 |

# 4

# COMMON FACILITY SERVICE BY S.S.I.D.O.

TO IMPROVE PRODUCTION SKILLS AND

PROVIDE PRODUCTION FACILITIES AT A NOMINAL COST

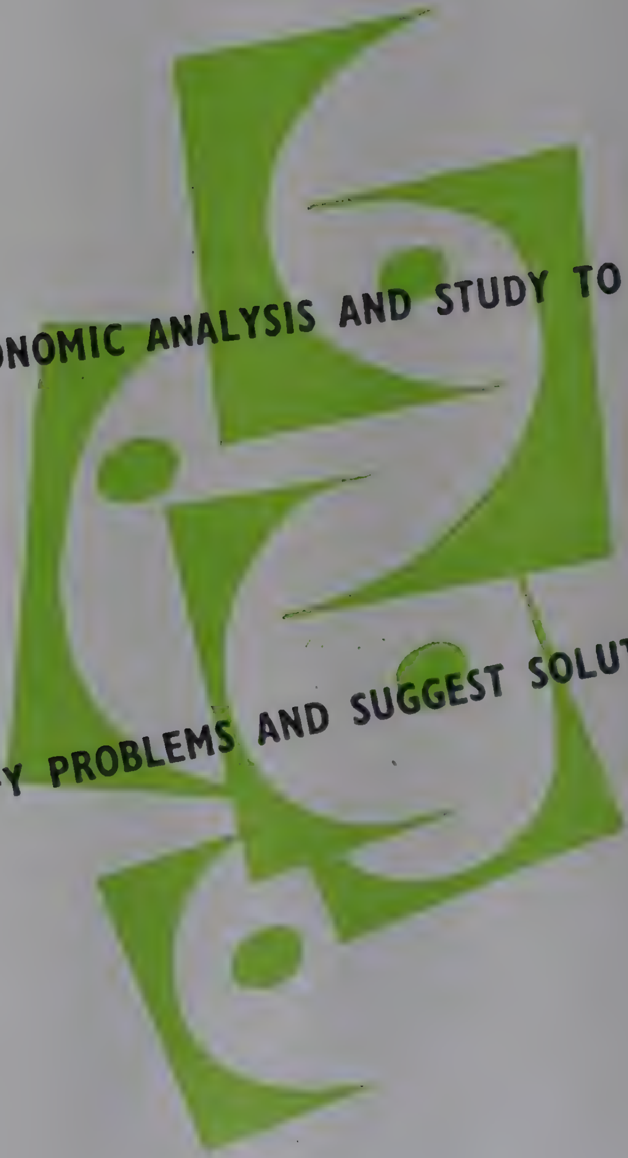


## COMMON FACILITY SERVICES RENDERED TO SMALL INDUSTRY THROUGH 16 WORKSHOPS OF SISIs AND 55 EXTENSION CENTRES THROUGH OUT THE COUNTRY

| YEARS | PARTIES ASSISTED NOS. | REVENUE EARNED RS. MILLIONS |
|---|---|---|
| 1962-63 | 13911 | 0.463 |
| 1963-64 | 16197 | 0.545 |
| 1964-65 | 18934 | 0.827 |
| 1965-66 | 20601 | 0.897 |
| 1966-67 | 20966 | 0.939 |
| 1967-68 | 29000 | 1.105 |
| 1968-69 | 30000 | 1.123 |
| 1969-70 | 31355 | 1.350 |

# 5

# ECONOMIC SERVICES



ECONOMIC ANALYSIS AND STUDY TO IDENTIFY PROBLEMS AND SUGGEST SOLUTIONS

## ECONOMIC SERVICES RENDERED BY SSIDO SO FAR

| | |
|---|---|
| AREA DEVELOPMENT SURVEYS | 173 |
| INDUSTRY OUTLOOK REPORTS | 150 |
| INDUSTRY PROSPECT SHEETS | 291 |
| DISTRIBUTION AID SURVEYS | 255 |
| ADHOC INFORMATION SURVEYS | 3,07,818 |
| FEASIBILITY STUDIES | 9 |

# 6

# TRAINING PROGRAMME

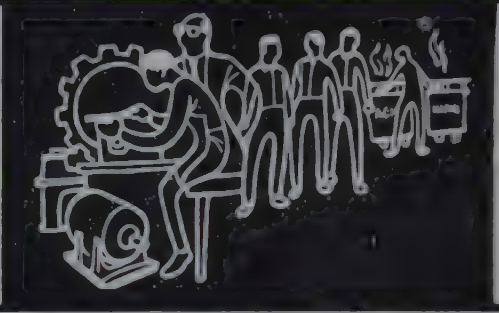
## A CONTINUOUS UPGRADING OF SKILLS

## TOTAL NO OF PERSONS TRAINED IN VARIOUS TRADES SO FAR FOR SMALL INDUSTRY PROGRAMMES

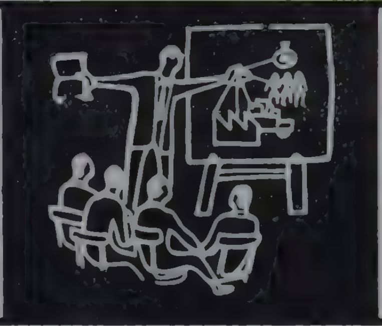
AS ON MARCH 1970)

### SMALL SCALE INDUSTRIES DEVELOPMENT ORGANISATION

PERSONS TRAINED IN TECHNICAL TRADES



30053



PERSONS TRAINED IN MANAGEMENT TRADES 26458

* BLOCK LEVEL EXTENSION OFFICERS 4353

TOTAL 60864

### NATIONAL SMALL INDUSTRIES CORPORATION

PERSONS TRAINED IN PRODUCTION CUM TRAINING CENTRES

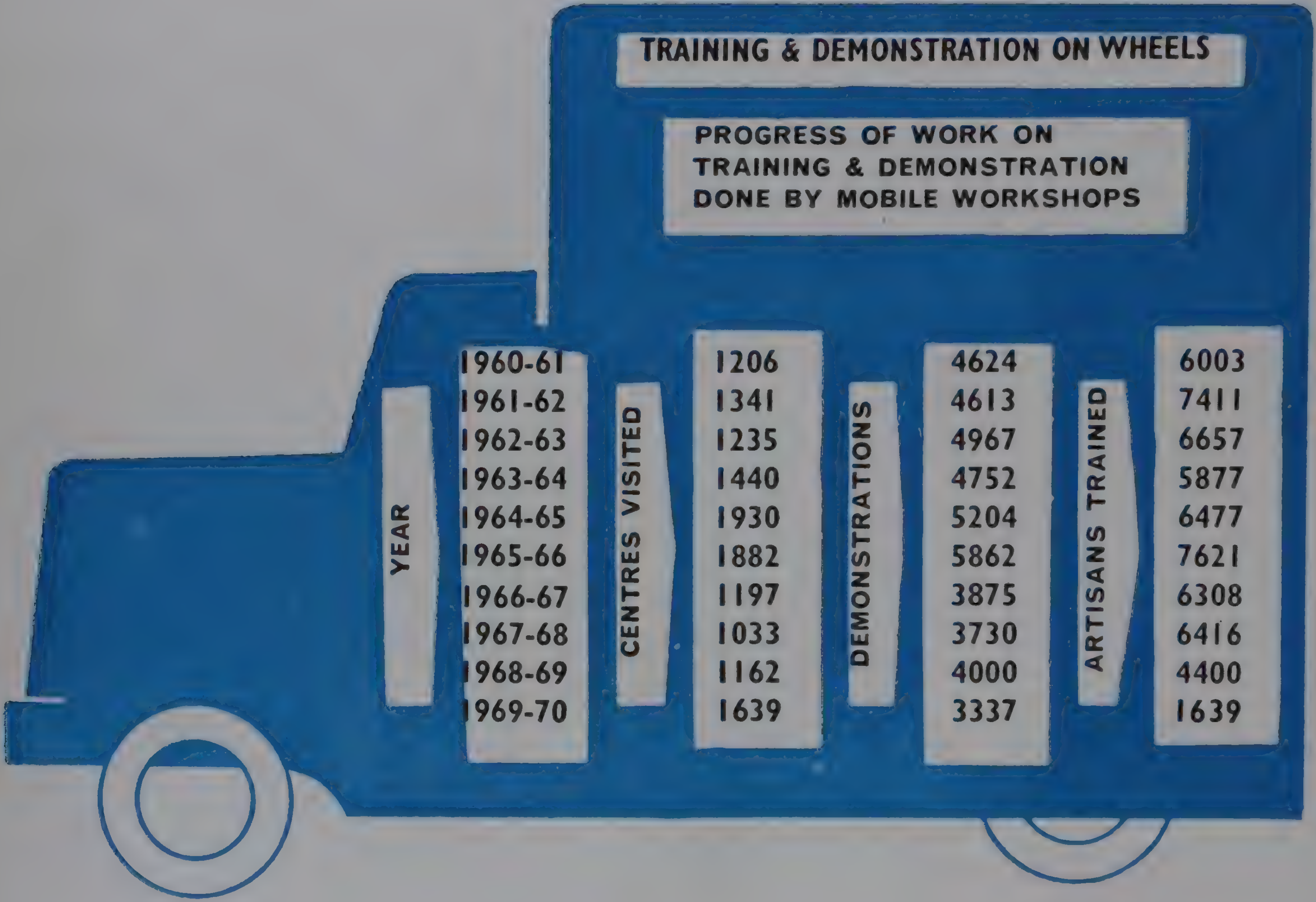
4586

* THIS PROGRAMME HAS BEEN DISCONTINUED BY SSIDO FROM 1967-68

GRAND TOTAL 65450

## PROGRESS OF A DECADE IN TRAINING

| | TECHNICAL TRADES | MANAGEMENT TRADES | PRODUCTION CUM TRAINING CENTRES |
|---|---|---|---|
| 1960-61 | 752 | 1687 | 81 |
| 1961-62 | 1391 | 1438 | 228 |
| 1962-63 | 2051 | 1265 | 260 |
| 1963-64 | 2600 | 1569 | 561 |
| 1964-65 | 3100 | 1930 | 599 |
| 1965-66 | 3500 | 2321 | 603 |
| 1966-67 | 3188 | 2869 | 636 |
| 1967-68 | 3655 | 3697 | 531 |
| 1968-69 | 3860 | 4022 | 581 |
| 1969-70 | 3553 | 3572 | 506 |



## TRAINING & DEMONSTRATION ON WHEELS

### PROGRESS OF WORK ON TRAINING & DEMONSTRATION DONE BY MOBILE WORKSHOPS

| YEAR | CENTRES VISITED | DEMONSTRATIONS | ARTISANS TRAINED |
|---|---|---|---|
| 1960-61 | 1206 | 4624 | 6003 |
| 1961-62 | 1341 | 4613 | 7411 |
| 1962-63 | 1235 | 4967 | 6657 |
| 1963-64 | 1440 | 4752 | 5877 |
| 1964-65 | 1930 | 5204 | 6477 |
| 1965-66 | 1882 | 5862 | 7621 |
| 1966-67 | 1197 | 3875 | 6308 |
| 1967-68 | 1033 | 3730 | 6416 |
| 1968-69 | 1162 | 4000 | 4400 |
| 1969-70 | 1639 | 3337 | 1639 |

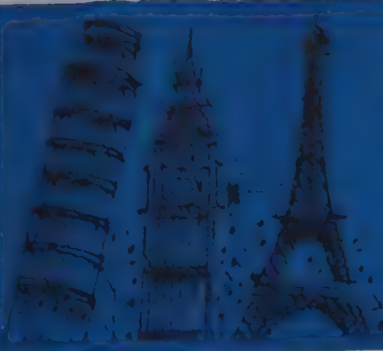
# TRAINING OF OFFICERS DEPUTED BY OTHER DEVELOPING COUNTRIES TO INDIA, AS ON 31.3.70

## COUNTRIES

PHILIPPINES
UGANDA
KENYA
NYASALAND
CEYLON
MALAYASIA
MAURITIUS
NEPAL
ETHIOPIA
NIGERIA
IRAQ
AFGHANISTAN
SYRIA
U.A.R.
IRAN

GOLD COAST
JAPAN
TIBETAN REFUGEES
U.K.
AUSTRALIA
RUSSIA
BURMA
ANGOLA
TANZANIA
COLUMBIA
SAUDI ARABIA
TOGO
LAOS
INDONESIA

OFFICERS TRAINED 183



## OFFICERS OF SSIDO TRAINED ABROAD (AS ON 31.3.70)

| COUNTRY | NO. |
|---|---|
| U.S.A. | |
| U.K. | |
| FRANCE | |
| POLAND | |
| USSR | |
| DENMARK | |
| NETHERLANDS | |
| NORWAY | |
| SWEDEN | |
| WEST GERMANY | |
| JAPAN | |
| ITALY | |
| OFFICERS TRAINED | 66 |

## STUDY VISITS OF DELEGATIONS FROM FOREIGN COUNTRIES

| IMPORTANT COUNTRIES | YEARS | PERSONS VISITING |
|---|---|---|
| NEPAL, IRAQ, PHILLIPPINES, CEYLONE. | 1967-68 | 105 |
| IRAN, U.A.R., INDONESIA, TURKEY | 1968-69 | 63 |
| U.K., IRAN MALAYASIA, AFGHANISTAN | 1969-70 | 55 |

# 7

# MANAGEMENT CONSULTANCY

## MANAGEMENT CONSULTANCY BY SSIDO

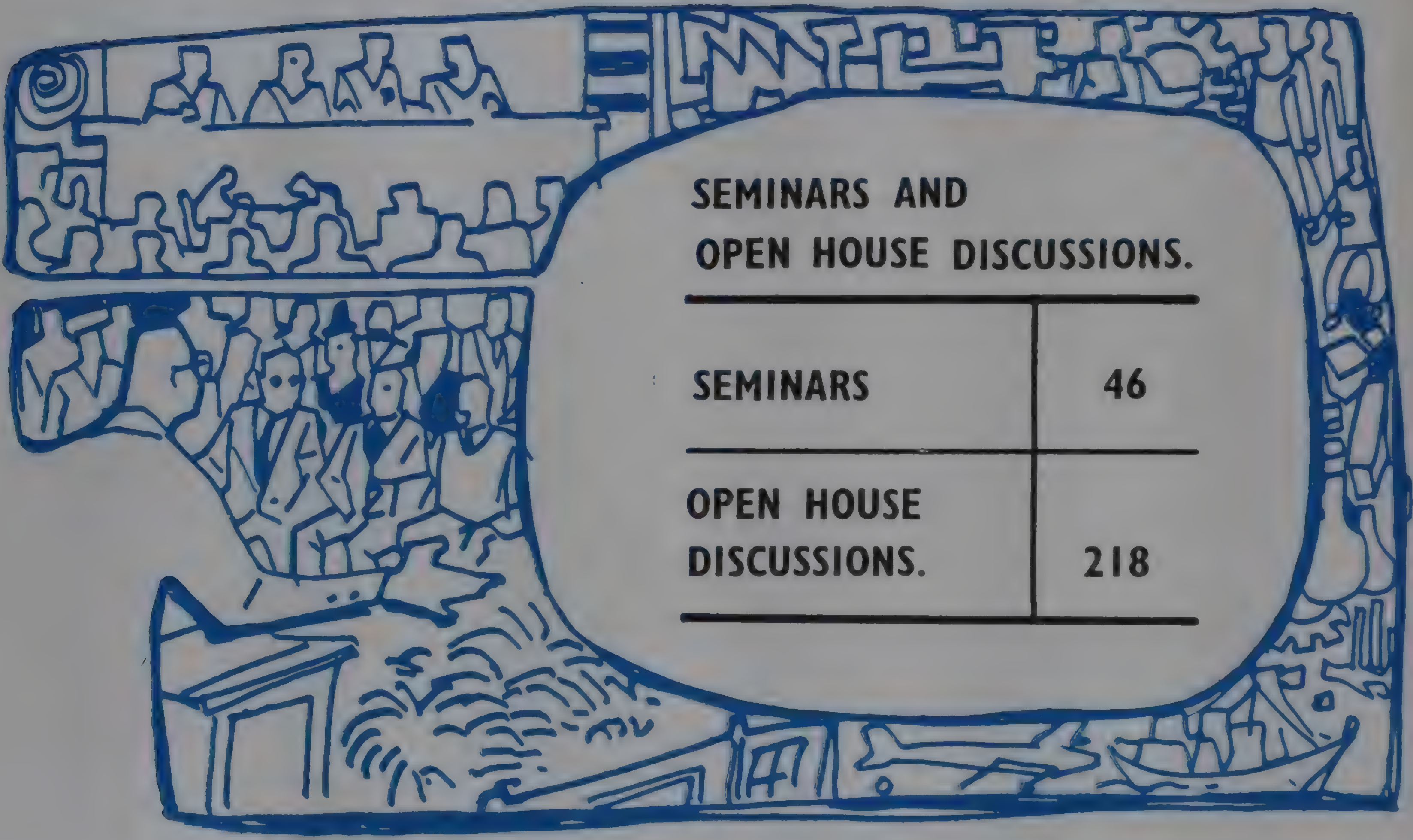
| | ENTREPRENEURS GIVEN CONSULTANCY AT THE INSTITUTE. | ENTERPRISES ASSISTED ON THE SPOT | TOTAL |
|---|---|---|---|
| 1967-68 | 2196 | 2556 | 4752 |
| 1968-69 | 2657 | 3151 | 5808 |
| 1969-70 | 2968 | 2053 | 5021 |

## IN PLANT STUDIES CONDUCTED BY SSIDO

| YEAR | NO. OF STUDIES |
|---|---|
| 1962-63 | 2 |
| 1963-64 | 11 |
| 1964-65 | 17 |
| 1965-66 | 42 |
| 1966-67 | 35 |
| 1967-68 | 69 |
| 1968-69 | 43 |
| 1969-70 | 57 |
| TOTAL | 276 |

## GEOGRAPHICAL SPREAD OUT OF THE MANAGEMENT COURSES CONDUCTED DURING 1969-70

| NAME OF THE INSTITUTE. | NAME OF THE PLACES. |
|---|---|
| MAHARASHTRA | POONA, BOMBAY, AHMEDNAGAR, KOLHAPUR, SAWANTWADI, NAGPUR, JALGAON, AMRAVATI, |
| TAMIL NADU | ERODE, RANIPET,VIRUDHACHALAM, MADRAS, COIMBATORE, SIVAKASI, TIRUVOTIYUR. |
| WEST BENGAL | CALCUTTA |
| NEW DELHI | AMBALA, JAGADHARI, DELHI |
| GUJARAT | MANGARH, BHAWNAGAR, AHMEDABAD, ANAND & JUNAGARH. |
| ANDHRA PRADESH | TIRUPATI, KHAMMAM,, HYDERABAD, RAJAMUNDRI. VIJAYAWADA, |
| MYSORE | TUMKUR, BELGAUM, HUBLI, KOLAR GOLD FIELDS HASSAN, MYSORE & BANGALORE. MANGALORE, |
| UTTAR PRADESH | FAIZABAD, ALLAHABAD, KHURJA, KANPUR, SAHARANPUR, MEERUT, SHAHJAHANPUR AND BARABANKI. |
| PUNJAB & HARYANA | JULLUNDUR, CHANDIGARH, BATALA & LUDHIANA |
| KERALA | ERNAKULAM, TRICHUR, ALLEPPEY, TRIVANDRUM, PALGHAT & CALICUT |
| ASSAM | GAUHATI, TEJPUR & SILCHER. |
| MADHYA PRADESH | INDORE, RAIPUR AND SEONI. |
| RAJASTHAN | JAIPUR & AJMER. |
| BIHAR | RAMEHI, PATNA AND RAKAUL. |
| JAMMU & KASHMIR | SRINAGAR |
| GOA | PANAJI |



## SEMINARS AND OPEN HOUSE DISCUSSIONS.

| | |
|---|---|
| SEMINARS | 46 |
| OPEN HOUSE DISCUSSIONS. | 218 |

# 8

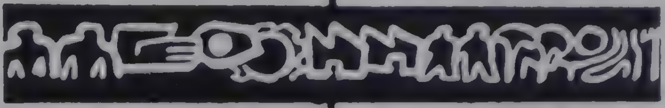
# MARKETING ASSISTANCE

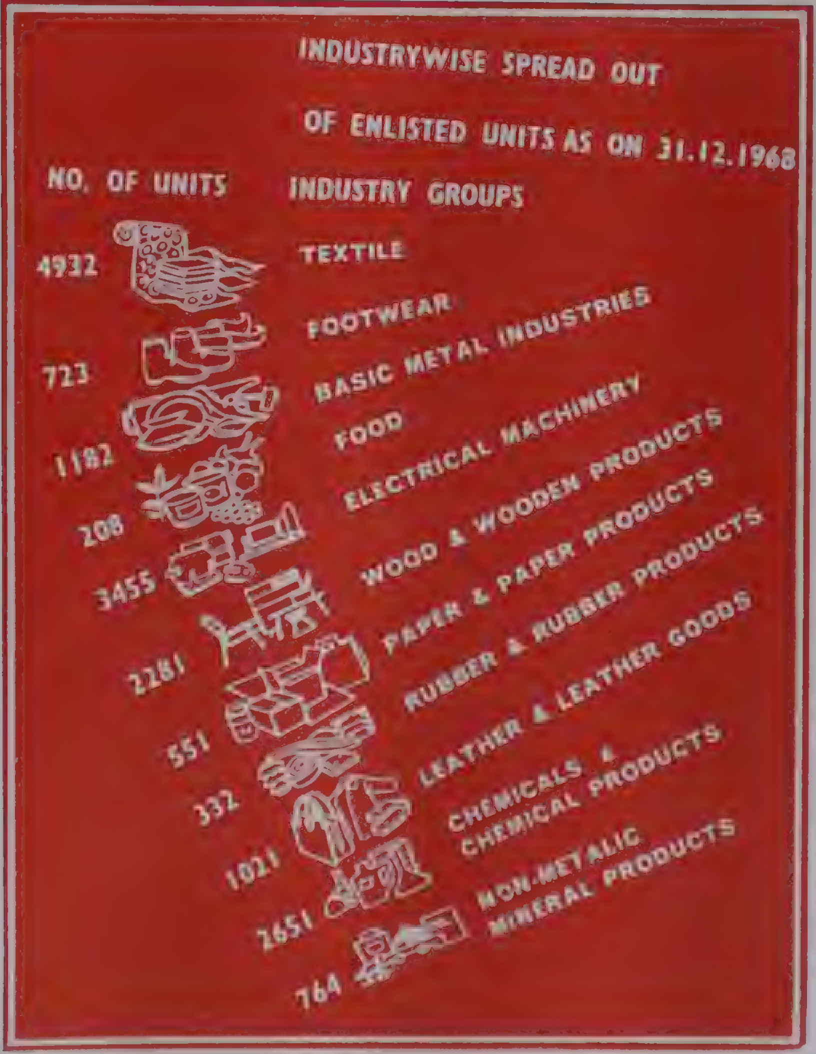
## GOVT. STORES PURCHASE PROGRAMME

PURCHASES BY THE BIGGEST BUYER

| | |
|---|---|
| ITEMS RESERVED FOR PURCHASES (MARCH 1970) | 146 |
| NUMBER OF UNITS ENLISTED MARCH (1969) WITH N.S.I.C. | 19032 |
| TOTAL NUMBER OF CONTRACTS SECURED THROUGH D.G.S. & D (FROM MARCH 56-MARCH 70) | 26338 |
| TOTAL VALUE OF THE CONTRACTS SECURED RS. MILLIONS | 1820 |
| TOTAL NO OF CONTRACTS SECURED THROUGH THE RAILWAYS (61-62 TO 69-70) | 71098 |
| TOTAL VALUE OF THE CONTRACTS SECURED RS. MILLIONS | 160.1 |
| TOTAL NO OF CONTRACTS SECURED THROUGH THE P & T DEPT. (65.66 TO 69-70) | 437 |
| VALUE OF CONTRACTS SECURED RS. IN MILLIONS | 9.2 |

| NO OF UNITS ENLISTED BY NATIONAL SMALL INDUSTRIES CORPORATION LTD. FOR GOVT PURCHASES AS ON 31.3.1970 | |
|---|---|
| **EASTERN REGION** | |
| WEST BENGAL | 3468 |
| BIHAR | 523 |
| ASSAM | 224 |
| ORISSA | 407 |
| | 4622 |
| **WESTERN REGION** | |
| MAHARASHTRA | 2546 |
| GUJARAT | 930 |
| MADHYA PRADESH | 531 |
| GOA | 43 |
| | 4050 |
| **SOUTHERN REGION** | |
| DELHI | 1960 |
| PUNJAB & HARYANA | 1603 |
| UTTAR PRADESH | 2226 |
| RAJASTHAN | 340 |
| J & K | 41 |
| | 6170 |
| **NORTHERN REGION** | |
| TAMIL NADU | 1916 |
| ANDHRA PRADESH | 911 |
| KERALA | 604 |
| MYSORE | 759 |
| | 4190 |
| GRAND TOTAL | 19031 |

| **DURING 1969-70** | **D.G.S. & D.** | **INDIAN RAILWAYS** | **P & T DEPARTMENT** |
|---|---|---|---|
| **TENDERS PROCESSED** | 3411 |  | |
| **CONTRACTS SECURED** | 2054 | 8040 | 113 |
| **VALUE OF CONTRACTS SECURED** RS. MILLIONS | 208.6 | 21.5 | 1.03 |

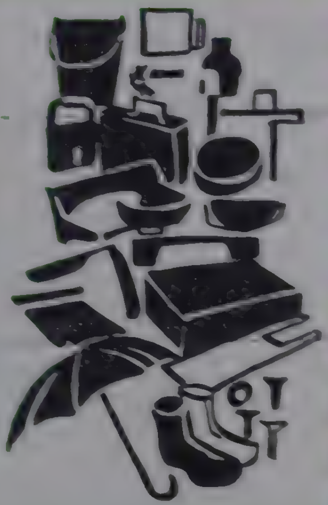


INDUSTRYWISE SPREAD OUT

OF ENLISTED UNITS AS ON 31.12.1968

| NO. OF UNITS | INDUSTRY GROUPS |
|---|---|
| 4932 | TEXTILE |
| 723 | FOOTWEAR |
| 1182 | BASIC METAL INDUSTRIES |
| 208 | FOOD |
| 3455 | ELECTRICAL MACHINERY |
| 2281 | WOOD & WOODEN PRODUCTS |
| 551 | PAPER & PAPER PRODUCTS |
| 332 | RUBBER & RUBBER PRODUCTS |
| 1021 | LEATHER & LEATHER GOODS |
| 2651 | CHEMICALS & CHEMICAL PRODUCTS |
| 764 | NON-METALIC MINERAL PRODUCTS |

## RESERVATION OF ITEMS FOR EXCLUSIVE PURCHASE BY GOVT FROM SMALL SCALE SECTOR.



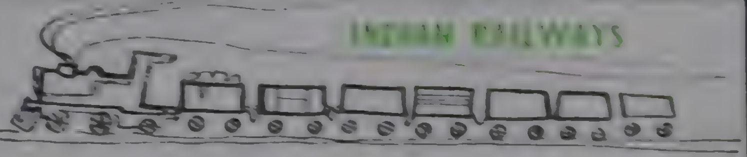
| YEARS | NO. OF ITEMS |
|---|---|
| 1956-59 | 16 |
| 1959-61 | 27 |
| 1961-62 | 46 |
| 1962-63 | 63 |
| 1963-64 | 70 |
| 1964-66 | 72 |
| 1966-67 | 84 |
| 1967-68 | 110 |
| 1968-69 | 122 |
| 1969-70 | 146 |
| 1970-71 | 166 |

## DIRECTOR GENERAL OF SUPPLIES & DISPOSALS

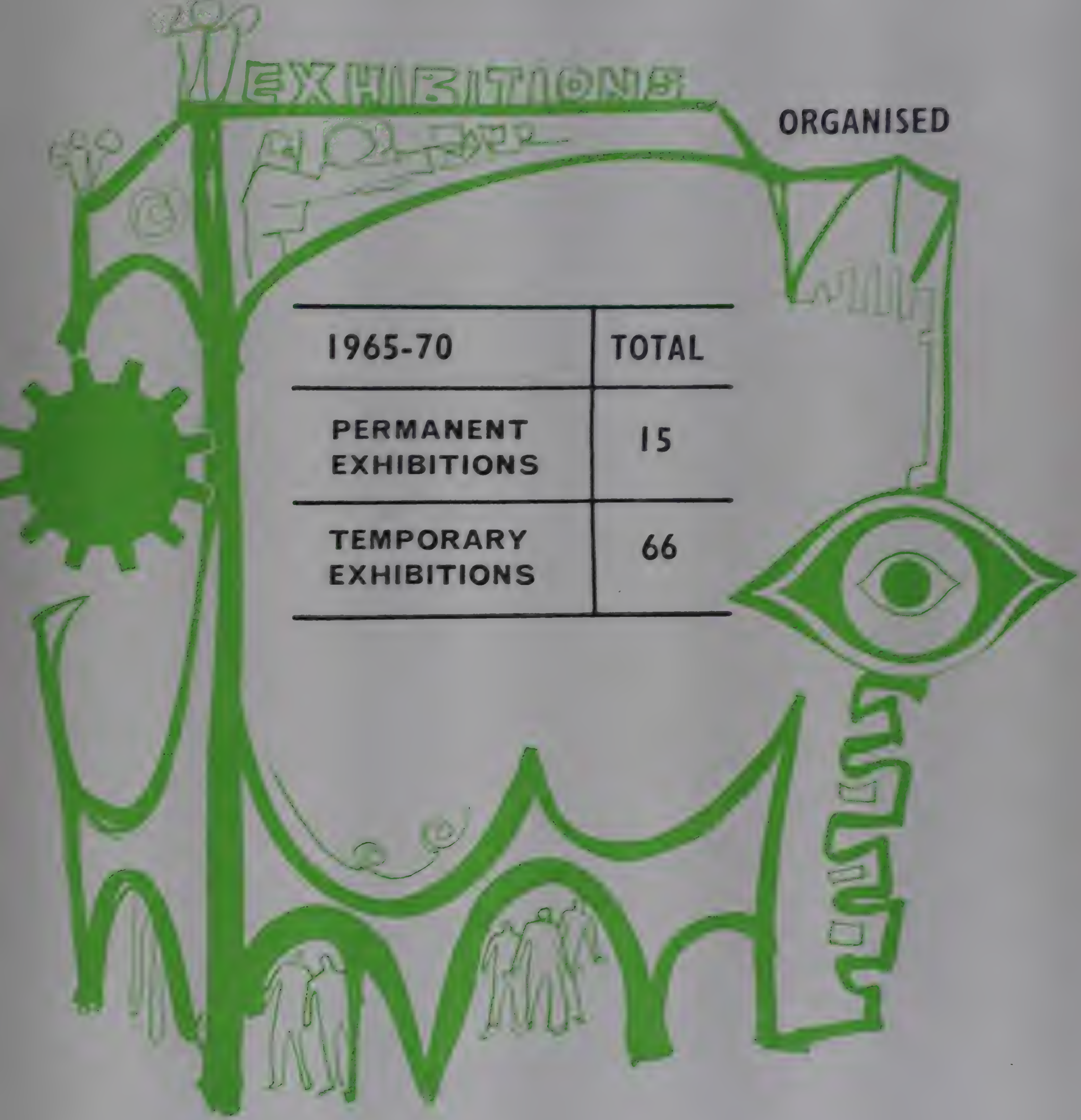
CONTRACTS SECURED & VALUE

|  | TENDER PURCHASED | CONTRACTS SECURED | VALUE RS. MILLION |
|---|---|---|---|
| UPTO 31.7.57 | [illegible] | [illegible] | 0.052 |
| 1957-58 | [illegible] | 111 | [illegible] |
| 1958-59 | [illegible] | [illegible] | 25.612 |
| 1959-60 | [illegible] | [illegible] | 26.431 |
| 1960-61 | [illegible] | 1437 | 33.512 |
| 1961-62 | [illegible] | [illegible] | 79.312 |
| 1962-63 | [illegible] | [illegible] | [illegible] |
| 1963-64 | [illegible] | [illegible] | [illegible] |
| 1964-65 | [illegible] | [illegible] | 173.134 |
| 1965-66 | [illegible] | [illegible] | 200.592 |
| 1966-67 | [illegible] | [illegible] | 235.000 |
| 1967-68 | [illegible] | [illegible] | 191.616 |
| 1968-69 | [illegible] | [illegible] | 177.425 |
| 1969-70 | [illegible] | [illegible] | 205.600 |
|  | [illegible] | [illegible] | [illegible] |

## INDIAN RAILWAYS



| YEAR | CONTRACTS SECURED | VALUE RS. MILLIONS |
|---|---|---|
| 1960-61 | [illegible] | 12.4 |
| 1961-62 | [illegible] | 14.5 |
| 1962-63 | [illegible] | 18.7 |
| 1963-64 | 8315 | 14.6 |
| 1964-65 | [illegible] | 14.2 |
| 1965-66 | [illegible] | 18.6 |
| 1966-67 | [illegible] | 20.0 |
| 1967-68 | 7284 | 21.1 |
| 1968-69 | [illegible] | 21.5 |
| TOTAL | [illegible] | 160.1 |



## ORGANISED

| 1965-70 | TOTAL |
|---|---|
| PERMANENT EXHIBITIONS | 15 |
| TEMPORARY EXHIBITIONS | 66 |

# 9

# SCARCE RAW MATERIALS TO SMALL INDUSTRY SECTOR

## A PRIMARY NEED FOR SURVIVAL AND GROWTH

## ALLOCATION OF FOREIGN EXCHANGE TO SMALL SCALE SECTOR FOR IMPORT OF RAW MATERIALS COMPONENTS LICENSABLE BY CHIEF CONTROLLER OF EXPORTS AND IMPORTS

| YEAR | AMOUNT RS. MILLIONS |
|---|---|
| 1960-61 | 14.12 |
| 1961-62 | 16.58 |
| 1962-63 | 9.50 |
| 1963-64 | 12.20 |
| 1964-65 | 13.00 |
| 1965-66 | 4.40 |
| 1966-67 | 74.09 |
| 1967-68 | 44.77 |
| 1968-69 | 36.72 |
| 1969-70 | 65.57 |

## COMPARATIVE STUDY OF AVAILABILITY OF B.P. SHEETS TO SMALL AND LARGE INDUSTRY SECTOR

B. P SHEETS 16-20 GAUGES AND ABOVE

| YEAR | TOTAL AVAILABILITY | SHARE OF SMALL INDUSTRY | SHARE OF LARGE INDUSTRY | PERCENTAGE OUT OF TOTAL | |
|---|---|---|---|---|---|
| | | | | SMALL INDUSTRY | LARGE INDUSTRY |
| 1965-66 | 84130 | 49000 | 35130 | 58 | 42 |
| 1966-67 | 119535 | 54700 | 64835 | 46 | 54 |
| 1967-68 | 96948 | 45013 | 51935 | 46 | 54 |
| 1968-69 | 93232 | 19826 | 73406 | 21 | 79 |
| 1969-70 | 99183 | 34626 | 64557 | 34 | 66 |

## ALLOCATION OF INDIGENOUS NON-FERROUS METALS TO SMALL SCALE SECTOR

| YEAR | E. C. GRADE ALUMINIUM (IN TONNES) |
|---|---|
| 1964-65 | 3000 |
| 1965-66 | 3000 |
| 1966-67 | 4000 |
| 1967-68 | 6800 |
| 1968-69 | 5000 |
| 1969-70 | 10500 |
| 1970-71 | 25000 |

# 10

# ANCILLARY DEVELOPMENT

AN EFFECTIVE LINK AND A LEVER FOR INDUSTRIAL GROWTH

| ANCILLARY DEVELOPEMENT DURING | 1969-70 |
|---|---|
| NO. OF LARGE UNITS OBTAINING ANCILLARY SUPPLIES | 200 |
| NO. OF ANCILLARY UNITS MANUFACTURING COMPONENTS | 10000 |
| TOTAL INVESTMENT IN THESE UNITS. (IN RS MILLIONS) | 3000 |
| TOTAL ANCILLARY SUPPLIES MADE TO PARENT UNITS (VALUE IN RS. MILLIONS) | 227.28 |
| TOTAL EMPLOYMENT IN THESE UNITS (IN THOUSANDS) | 100 |
| TYPES OF END PRODUCTS COVERED BY ANCILLARY UNITS (16 INDUSTRY GROUPS) | 980 |
| CENTRES OF CONCENTRATION | BANGALORE BOMBAY DELHI RANCHI MADRAS |

## SPREAD OUT OF ANCILLARY PRODUCTION FOR PARENT UNITS DURING 1969-70

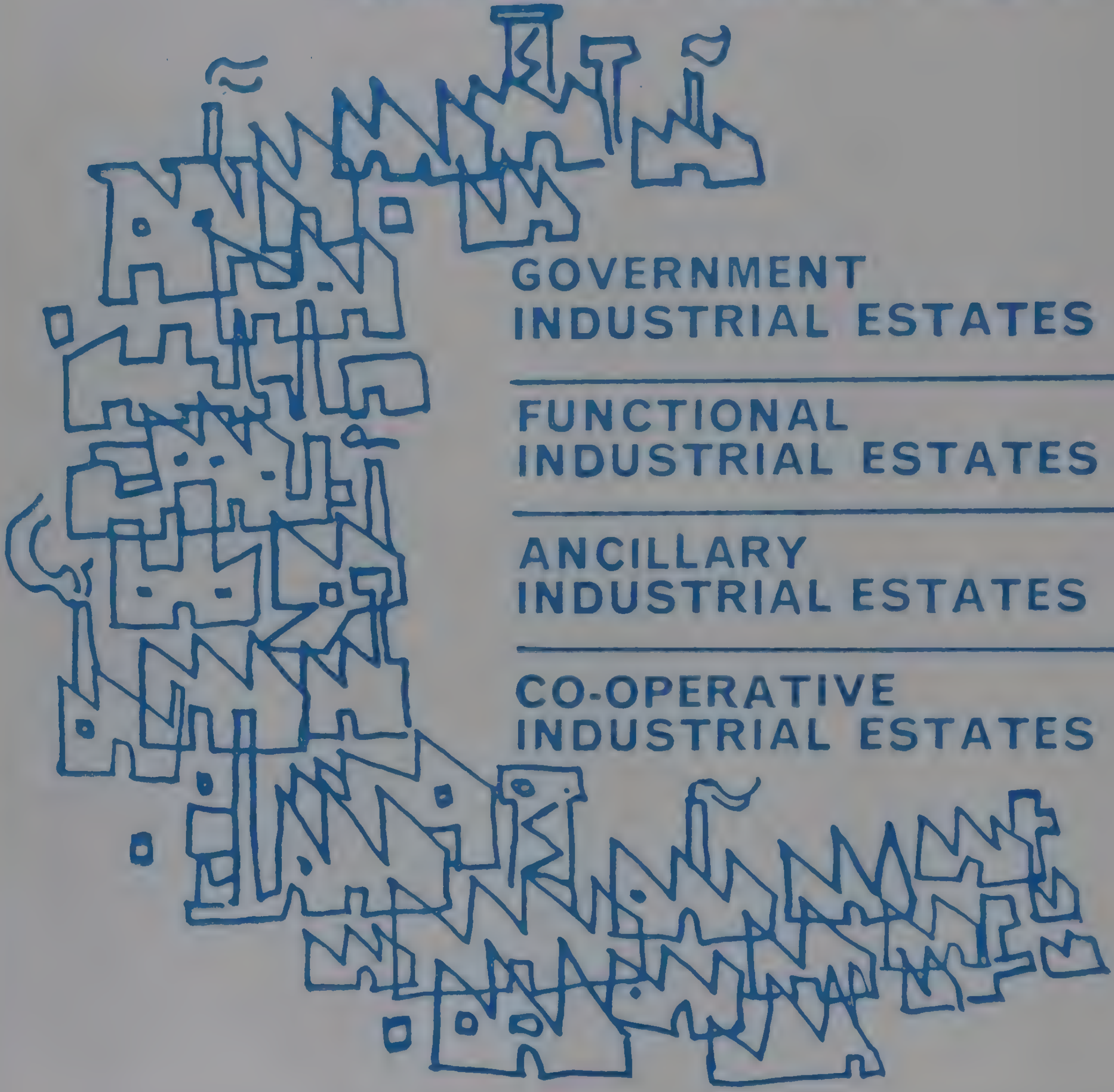
| NAME OF STATE | ANCILLARY SUPPLIES MADE (IN RS. MILLIONS) |
|---|---|
| ANDHRA PRADESH | 4.927 |
| ASSAM | 3.961 |
| BIHAR | 24.880 |
| DELHI & HARYANA | 16.749 |
| GUJARAT | 12.684 |
| J & K | .230 |
| KERALA | 14.455 |
| MAHARASHTRA | 32.425 |
| MADHYA PRADESH | 10.696 |
| MYSORE | 42.938 |
| ORISSA | 23.700 |
| PUNJAB & H.P. | 10.000 |
| RAJASTHAN | 2.353 |
| TAMIL NADU | 68.595 |
| UTTAR PRADESH | 2.500 |
| WEST BENGAL | 5.955 |
| TOTAL | 277.028 |

# 11

# INDUSTRIAL ESTATES PROGRAMME

A TOOL FOR DISPERSAL OF INDUSTRIES

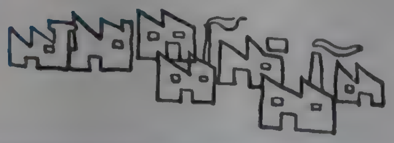
## TYPE OF INDUSTRIAL ESTATES FUNCTIONING AS ON 31.3.70



| | |
|---|---|
| GOVERNMENT INDUSTRIAL ESTATES | 303 |
| FUNCTIONAL INDUSTRIAL ESTATES | 6 |
| ANCILLARY INDUSTRIAL ESTATES | 6 |
| CO-OPERATIVE INDUSTRIAL ESTATES | 32 |

## FACTS ON INDUSTRIAL ESTATES

(AS ON 31.3.70)



| | |
|---|---|
| NO OF INDUSTRIAL ESTATES CONSTRUCTED | 389 |
| ESTATES FUNCTIONING | 303 |
| ESTATES IN URBAN LOCATIONS | 141 |
| ESTATES IN SEMI-URBAN LOCATIONS | 96 |
| ESTATES IN RURAL LOCATIONS | 66 |
| NO OF WORK SHEDS IN FUNCTIONING ESTATES | 5,413 |

## 10

### SECTORAL CHANGES IN A DECADE GOVERNMENT INDUSTRIAL ESTATES FUNCTIONING

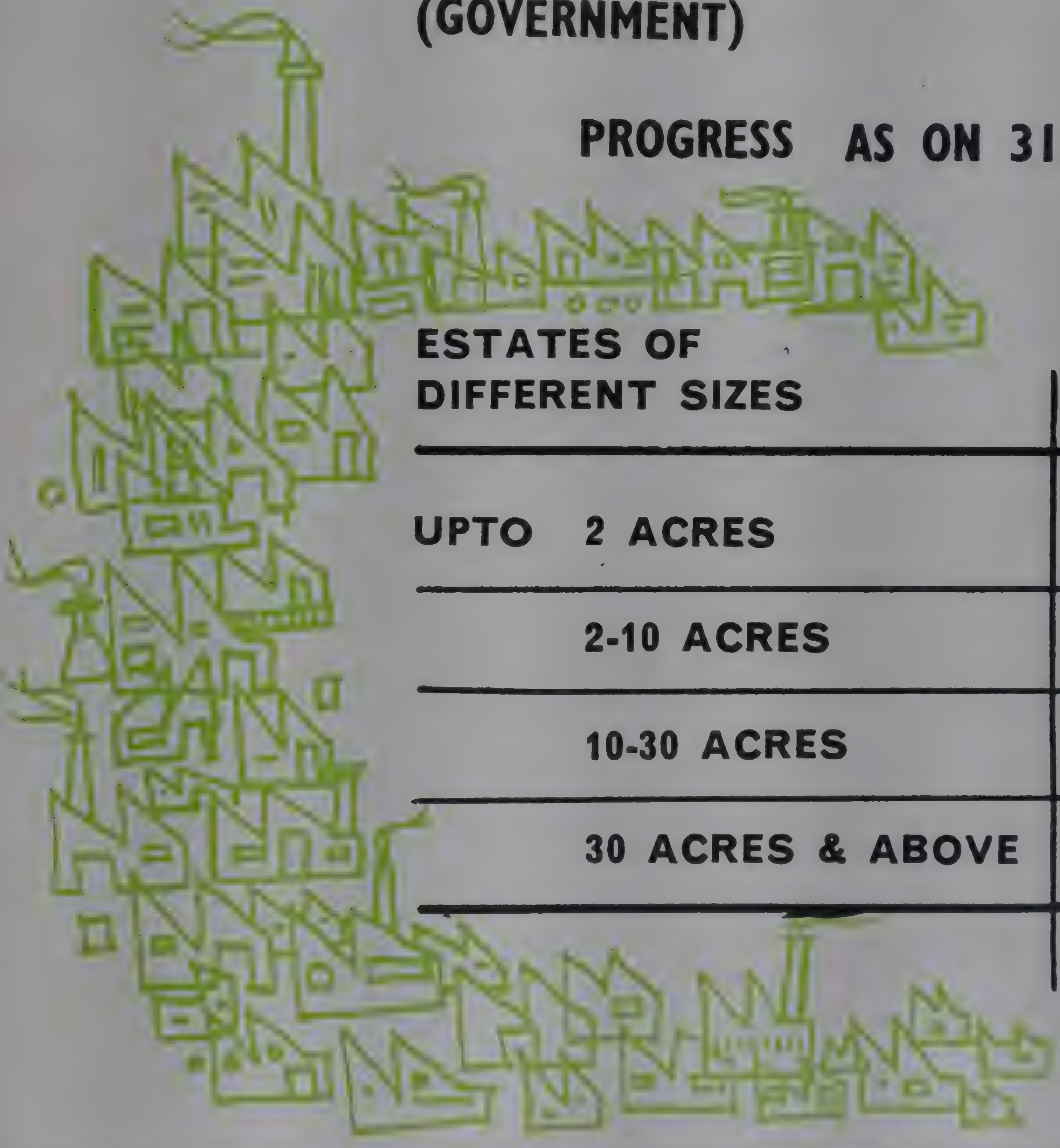
| | 1960-61 | | 1969-70 | |
|---|---|---|---|---|
| | NO. OF ESTATES | PERCENTAGE OF TOTAL | NO. OF ESTATES | PERCENTAGE OF TOTAL |
| URBAN INDUSTRIAL ESTATES | 43 | 62.1 | 141 | 46 |
| SEMI-URBAN INDUSTRIAL ESTATES | 17 | 25.8 | 96 | 32 |
| RURAL INDUSTRIAL ESTATES | 6 | 12.1 | 66 | 22 |
| TOTAL | 66 | 100 | 303 | 100 |

GOVERNMENT INDUSTRIAL ESTATES PROGRESS

| | 1966-67 | 67-68 | 68-69 | 69-70 |
|---|---|---|---|---|
| NO OF ESTATES FUNCTIONING | 231 | 248 | 285 | 303 |
| NO OF SHEDS OCCUPIED AND FACTORIES WORKING | 3580 | 4190 | 4553 | 5413 |
| TOTAL PRODUCTION (IN RS. MILLIONS) | 750 | 910 | 980 | 1000 |
| TOTAL EMPLOYMENT (IN THOUSANDS NOS) | | 68.5 | 82.7 | 96.3 |

## FUNCTIONING INDUSTRIAL ESTATES (GOVERNMENT)

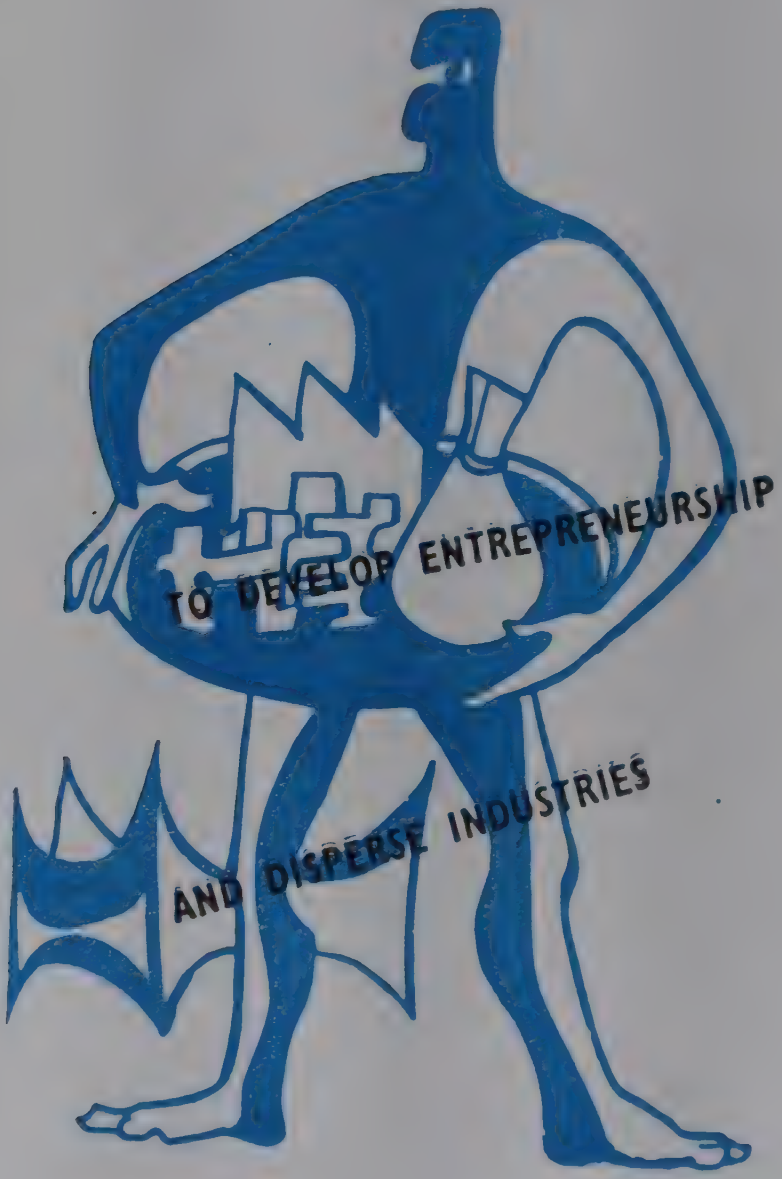
### PROGRESS AS ON 31.3.69



| ESTATES OF DIFFERENT SIZES | NOS. |
|---|---|
| UPTO 2 ACRES | 6 |
| 2-10 ACRES | 66 |
| 10-30 ACRES | 135 |
| 30 ACRES & ABOVE | 96 |
| | 303 |

# 12

# INTENSIVE DEVELOPMENT CAMPAIGNS



# 116 INTENSIVE DEVELOPMENT CAMPAIGNS CONDUCTED SO FAR IN INDIA

| | | |
|---|---|---|
| ANDHRA PRADESH | CHITTOR NIZAMABAD SRIKAKULAM VYSAKAPATNAM WARANGAL ANANTPUR HYDERABAD KHARIMNAGAR ADILABAD GUNTUR KARNOOL MEDAK NELLORE WEST GODAVARI | 14 |
| ASSAM | DARRANG DIMORIE GOALPARA SIBSAGAR KACHAR KAMRUP NOUGONG MANIPUR | 8 |
| BIHAR | MONGHIR SHAHABAD | 2 |
| DELHI | ALIPUR NARELA KARALA BAWANA | 4 |
| GOA | GOLAGHAT EAST C D BLOCK MARGAO | 2 |
| GUJARAT | GANDHIDHAM GUJARAT (NORTH) MEHSANA ANJAR BHAVNAGAR | 5 |
| HARYANA | HISSAR JHAJJAR (ROHTAK) GURGAON BHIWANI | 4 |
| HIMACHAL PRADESH | MAHASU | 1 |
| JAMMU & KASHMIR | ANANTNAG JAMMU (RANBIR SINGHPURA, TALAL TILLO AND AKHNOOR) | 2 |
| KERALA | ALLEPPEY CANNANORE PALGHAT QUILON TRICHUR | 5 |
| MADHYA PRADESH | HUZOOR ICHAWAR PILOT PROJECT AREA (SEHORE DIST) RAIPUR SHAJAPUR DURG RAIGARH DHAR KHARGUN DEWAS CHAMBAL SATNA JABALPORE | 11 |
| MAHARASHTRA | AMRAVATI SATARA SANGLI SHOLAPUR JALGAON AHMEDNAGAR NASIK NAGPUR CITY DHULIA KHAMGAON (BULDANA DIST.) RATNAGIRI NANDED AURANGABAD OSMANABAD PARBHANI BHIR | 16 |
| MYSORE | BIJAPUR CHITRADURG MANDYA BELLARY SHIMOGA DODDABALLAPUR (BANGALORE DIST.) KOLAR COORG SOUTH KANARA NORTH KANARA DHARWAR BANGALORE (RURAL) TUMKUR | 13 |
| ORISSA | GANJAM DIST. CUTTACK | 2 |
| PUNJAB | MALERKOTLA | 1 |
| PONDICHERY | PONDICHERY | 1 |
| RAJASTHAN | BHILWARA PALI ALWAR NAGAUR KOTAH | 5 |
| TAMIL NADU | VIRUDHANAGAR KRISHANAGIRI SALEM THANJAVUR RAMANATHAPURAM | 5 |
| NAGALAND | KOHIMA DIMAPUR | 2 |
| UTTAR PRADESH | BASTI HARDOI AZAMGARH PARTAPGARH UNNAO RAI BARELLY FATEHPUR SULTANPUR FAIZABAD BARABANKI LUCKNOW | 11 |
| WEST BENGAL | BARMPUR AND NEIGHBOURING AREAS SAKTIGARH BLOCK, DIST. BURDWAN | 2 |

## GLIMPSES OF 8 STATE WIDE CAMPAIGNS

| STATE | ENTREPRENEURS PROMOTED | VALUE OF MACHINERY APPLIED FOR RS. MILLIONS |
|---|---|---|
| BIHAR | 344 | 25.3 |
| ORISSA | 241 | 12.3 |
| MADHYA PRADESH | 876 | 68.6 |
| ANDHRA PRADESH | 2151 | 109.8 |
| RAJASTHAN | 253 | 18.3 |
| KERALA | 2001 | 55.0 |
| GUJARAT | 808 | 81.8 |
| JAMMU & KASHMIR | 350 | 17.7 |
|  | 7024 | 388.8 |

## GLIMPSES OF 21 DISTRICTWISE/AREAWISE CAMPAIGNS

| AREA / DISTRICT | (NOS.) | (IN RS. MILLION) |
|---|---|---|
| CUTTACK | 290 | 12.40 |
| ALLEPPEY | 123 | 2.41 |
| BHAVNAGAR | 34 | 1.65 |
| BELLAEY | 124 | 2.74 |
| SHIMOGA | 51 | 0.60 |
| TUMKUR | 62 | 0.99 |
| MANDYA | 97 | 2.02 |
| BIJAPUR | 138 | 3.30 |
| NORTH KANARA | 94 | 2.01 |
| GULBARGA | 53 | 0.91 |
| KOLAR | 113 | 1.26 |
| CHITRADURG | 100 | 1.99 |
| BHIWANI | 451 | 45.13 |
| NASIK | 245 | 18.22 |
| NAGPUR | 246 | 11.00 |
| MARATHAWADA | 225 | 6.42 |
| SALEM | 307 | 113.00 |
| PONDICHERY | 302 | 193.00 |
| TANJAVUR | 380 | 92.00 |
| RAMANATHAPURAM | 242 | 88.00 |
| RAI BARIELLY | 294 | 26.00 |

## IMPACT OF THE CAMPAIGNS I
## A COMPARATIVE STUDY

| STATE | H.P. APPLICATIONS RECEIVED DURING THE PERIOD 1956-66 |  |  |  |
|---|---|---|---|---|
|  | PRIOR TO THE CAMPAIGN |  | DURING THE CAMPAIGN ALONE |  |
|  | NOS. | VALUE RS. MILLIONS | NOS. | VALUE RS. MILLIONS |
| BIHAR | 141 | 9.1 | 344 | 25.3 |
| ORISSA | 96 | 5.5 | 241 | 12.3 |
| MADHYA PRADESH | 2077 | 48.8 | 876 | 68.6 |
| ANDHRA PRADESH | 584 | 23.1 | 2151 | 109.8 |
| RAJASTHAN | 150 | 8.3 | 253 | 18.3 |
| KERALA | 1022 | 33.3 | 2001 | 55.0 |

### IMPACT OF THE CAMPAIGNS II
### IN SELECTED INDUSTRY GROUPS

| INDUSTRY | PERCENTAGE INCREASE AS A RESULT OF THE COMPAIGN IN |  |  |
|---|---|---|---|
|  | INVESTMENT | PRODUCTION | EMPLOYMENT |
| PRINTING & BINDING | 28.7 | 4.9 | 25.0 |
| AUTO REPAIR & MAINTENANCE | 482.4 | 311.7 | 127.2 |
| BUILDING HARDWARE | 31.2 | 14.3 | 104.1 |
| P.V.C. SHOES | 520.9 | 112.0 | 137.5 |
| RUBBER GOODS & TYRE RETREADING | 81.3 | 15.5 | 16.9 |
| PLASTIC ARTICLES | 1172.0 | 273.3 | 166.6 |
| STEEL FURNITURE, FIXTURE & WELDING ARTICLES | 330.7 | 920.0 | 483.3 |
| BAKERY | 53.5 | 145.8 | 73.7 |
| PHARMACEUTICALS | 109.6 | 17.9 | 5.2 |
| WOOD BASED INDUSTRIES | 52.8 | 11.5 | 204.1 |

# 13

# HIRE PURCHASE OF MACHINERY

THROUGH N.S.I.C.

A LONG TERM LOAN IN KIND

AS ON 31.3.70.

| | |
|---|---|
| NUMBER OF PARTIES ASSISTED | 10,000 |
| TOTAL VALUE OF MACHINERY SUPPLIED (IN RS. MILLIONS) | 402.0 |
| TOTAL VALUE OF IMPORTED MACHINERY (IN RS. MILLIONS) | 236.1 |
| TOTAL VALUE OF INDIGENOUS MACHINERY (IN RS. MILLIONS) | 165.9 |

PROGRESS OF SUPPLY OF MACHINERY ON H.P. BASIS, BY N.S.I.C.

RS. MILLIONS

| YEAR | IMPORTED | INDIGENOUS | TOTAL |
|---|---|---|---|
| 1956-60 | 23.765 | 15.278 | 39.043 |
| 1960-61 | 12.060 | 5.810 | 17.870 |
| 1961-62 | 14.080 | 7.640 | 21.720 |
| 1962-63 | 18.180 | 15.931 | 34.111 |
| 1963-64 | 40.120 | 24.910 | 65.100 |
| 1964-65 | 18.297 | 20.125 | 38.422 |
| 1965-66 | 12.222 | 15.168 | 27.390 |
| 1966-67 | 16.198 | 13.318 | 29.516 |
| 1967-68 | 26.854 | 11.436 | 38.290 |
| 1968-69 | 25.568 | 19.372 | 44.940 |
| 1969-70 | 28.740 | 16.880 | 45.620 |
| TOTAL | 236.154 | 165.868 | 402.022 |

SPREAD OUT OF THE ASSISTANCE STATE/UNION TERRITTORY WISE

RS. MILLIONS

| SOUTHERN REGION | 144.5 | WESTERN REGION | 96.4 |
|---|---|---|---|
| TAMIL NADU | 53.2 | MAHARASHTRA | 65.4 |
| ANDHRA PRADESH | 20.3 | GUJARAT | 17.1 |
| KERALA | 23.0 | MADHYA PRADESH | 12.8 |
| MYSORE | 47.5 | GOA | 1.1 |
| PONDICHERRY | .5 | | |
| EASTERN REGION | 59.2 | NORTHERN REGION | 101.9 |
| WEST BENGAL | 47.3 | DELHI | 32.0 |
| BIHAR | 5.5 | UTTAR PRADESH | 37.0 |
| ASSAM | 3.9 | PUNJAB | 20.7 |
| ORISSA | 2.2 | JAMMU & KASHMIR | 1.8 |
| MANIPUR | 0.2 | RAJASTHAN | 7.4 |
| TRIPURA | 0.1 | HIMACHAL PRADESH | 1.0 |
| | | HARYANA | 2.0 |
| TOTAL | 402.0 | | |

# BIO-DATA
# SSIDO PERSONNEL
## (TECHNICAL)

*The numbers used in the Bio-data denote*

1. Academic/Technical Qualifications,
2. Fields of specialisation, and
3. Present post held.

# BIO-DATA : SSIDO PERSONNEL (TECHNICAL)

## DEVELOPMENT COMMISSIONER

**NANJAPPA K.L.**
(56 years)

1. M. Com. (Tokyo University of Commerce).
Studied the structure of Cottage and Small Industries and underwent practical training at Mitsubhusi Economic Research Bureau, Tokyo.
2. Development of Small Scale Industries and Handicrafts in all their aspects.
3. Development Commissioner (Small Scale Industries),
Ministry of Industrial Development and Internal Trade.
Overall control and charge of the Small Scale Industries Development Organisation in India.
Worked for about 26 years in various capacities as Director, National Small Industries Corporation, Small Industries Service Institute, All India Handicrafts Board; Secretary, Cottage and Small Industries Board (Government of Mysore); etc.
During the last 15 years, led and participated in, several delegations from India to International Conferences and Seminars in Japan, Sweden, Netherlands, Germany, Denmark, Italy, France, Norway, U.A.R. and Thailand.

## INDUSTRIAL ADVISER

**BASU D.D.**
(52 years)

1. M.A. (Economics) Indian Economic Service Grade I.
2. Industrial Planning, Investigation and Research for proper development and location of industries with particular reference to small scale industries.
3. Industrial Advisor, H.Q. Office.
Incharge of Planning, Policy and Industrial Research.
Incharge Economic Investigation & Statistics Division and Publicity and Public Relations Division.
Member-Secretary,
Small Scale Industries Board.

# CHEMICAL DIVISION

**CHITRE M.K.**
(53 years)
1. M.Sc. (Ind. Chem.)
Research in Production of Chemicals by electrolytic process. Production of Hydrogen peroxide. Activation of Manganese and Carbon for use in Dry cells.
2. Industrial Chemistry (Electrolytic Chemicals)
3. Director (Chem.) H.Q. Office.

**SHAH Dr. H.A.**
(52 years)
1. M.Sc. Ph. D (Bombay)
M.S. Engg. (Princeton) USA
Fellow of the Royal Institute of Chemistry, London.
2. Organic and Polymer Chemistry. Manufacture of Plastics, Paints and Varnishes and other Organic Chemicals.
3. Director, S.I.S.I., New Delhi. General administrative control of S.I.S.I. Delhi and Haryana.

**BALASUBRAMANIAM J.**
(38 years)
1. B.Sc. (Chem. with Physics and Geology) M.A. in Science subject with Phy. and Chem.
2. Rubber technology,
Plastic technology,
Printing Ink technology
Synthetic resins, polishes, adhesives, etc.
3. Deputy_Director, S.I.S.I., Madras.

**CHAKRABORTY R.N.**
(45 years)
1. B.Sc.
B. Ch. E. (Hons.)
2. Chemical Engg. as applied in various fields of chemical and allied industries.
3. Deputy Director, S.I.S.I., Calcutta.

**DIVEKAR A.B.**
(48 years)
1. B.Sc. (U.S.A)
Graduate in Plastics (U.S.A.)
Dipl. in Electrical and Electronics (U.S.A)
2. Rubber and plastics. Setting up of functional Industrial Estates in Rubber and Plastics.
3. Deputy Director, SISI, Bombay.

**MALHAN P.R.**
(42 years)
1. B.Sc.
M.Sc. (Tech.)
2. Plastics.
Oils and Fats. published papers on the above subjects.
3. Deputy Director at H. Qrs.

**MANDAL ALOK KUMAR**
(39 years)
1. B.Sc. (Hons).
M.Sc. (Applied Chem.)
2. Oil technology.
3. Deputy Director, S.I.S.I., Kanpur.

**NARAYANAN K.C.**
(46 years)
1. B.Sc. (Chemistry)
2. Production, Analysis, Marketing etc.
3. Deputy Director, S.I.S.I., Bangalore.

**PANDEY S.C.**
(42 years)
1. B.Sc.
A.H.B.T.I.
F.H.B.T.I.
Chemistry and Technology of Oils and Allied products.
2. Research and Development work in Chem. Technology.
3. Deputy Director, S.I.S.I., New Delhi.

**SEN N.K.**
(53 years)
1. B.Sc. (Hons. in Chemistry)
M.Sc. (Chemistry) Trg. in manufacture of DDT at M/s. Hindustan Insecticides.
2. Design and erection of fatty acid plant, modern soap plant and plant for the manufacture of Chemicals like Geranial, Lonone, Amyl Cinnamic Aldehyde, Benzyl Chloride, Caffeine from Tea Waste.
Research work for development of instant tea.
3. Deputy Director at H. Qrs.

**SUTAONE G.G.**
(45 years)
1. B.Sc.
B.Sc. (Tech.)
M.Sc. (Tech.)
M. S. (Chem. Engg.) U.S.A.
2. Chemical Engg. with Indl. experience in paper industry.
3. Deputy Director Incharge, S.I.S.I., Margao, Goa.

**THIAGARAJAN V.**
(43 years)
1. B.Sc. (Chemistry), Certificate in Mett., Indl. Engg. and Works Study. Member, Institute of Metal Polishing, London and the Society on Advancement of Electrochemical Science and Technology, Karaikudi.
2. Metal finishing processes, spray painting, Vacuum metalising of plastic and glass. Analysis of electroplating solutions; Chemical analysis of metal and alloys.
3. Deputy Director, S.I.S.I., Madras.

**BAHAL B.N.**
(44 years)
1. B.Sc. (Ind. Chem. )One year research work at B.H.U. on essential oils and blending of perfumes.
2. Metal finishing and essential oils.
3. Asstt. Director, S.I.S.I., Gauhati.

**BALAGOPALAN METHIL**
(41 years)
1. B.Sc. (Chemistry), Associate of Instt. of Chemicals.
2. Organic Chemicals with particular reference to Alkaloids and Essential Oils under Drugs and Pharmaceuticals.
3. Assistant Director, S.I.S.I., Trichur.

**BASANT KUMAR**
(39 years)
1. B.Sc. (Ind. Chem.)
2. Manufacture of Ultra Marine Blue Safety and coloured Matches. Galvanising.
3. Assistant Director, S.I.S.I., Agra.

**BHATIA MANOHAR LAL**
(38 years)
1. B.Sc., Post-graduate Diploma in Fruit and Vegetable Technology, Member Association of Food Technologists (I).
2. Fruit and Vegetable preservation and Canning.
3. Assistant Director, S.I.S.I., Indore.

**CHAKRABORTY SUSHIL K.**
(40 years)
1. B.Sc. (Hons.)
M.Sc. (Applied Chem.)
Certificate in German Language.
2. Plastic and rubber technology, paint, batteries.
3. Assistant Director, S.I.S.I., Calcutta.

**DHIR S.N.**
(41 years)
1. M.Sc.
2. High Polymers, Synthetic Resins and their application.
Instrumental techniques of Chemical analysis. Essential oils and Pharmaceutical Intermediates.
3. Assistant Director, S.I.S.I., Ludhiana.

**DHOTRE C.S.**
(53 years)
1. Up to Matric
2. Metal finishing, Electroplating, Vacuum Metalizing, Anodizing.
3. Asstt. Director, S.I.S.I. Ext. Centre, Poona.

**GERA OM PRAKASH**
(38 years)
1. B.Sc.
Proficiency in German Language, special course in fruit preservation.
2. Frozen fruits and vegetables, Apple and allied juices.
Pectin manufacture. Canning of temperate fruits, and Vegetables.
3. Assistant Director, S.I.S.I., Srinagar.

**GUHA N.K.**
(32 years)
1. A.I.C. (M.Sc. in Chem.)
Diploma in Indl. Chemistry
A.M.I.S.E.
2. Organic chemicals, Pesticides etc.
3. Assistant Director, S.I.S.I., Calcutta.

**KAUL DWARKA NATH**
(46 years)
1. M.Sc. (Org. Chem.) with one academic year's research work.
2. Rubber and Plastics.
3. Assistant Director, S.I.S.I., Srinagar.

**Smt. LEELA NAYAR K.P.**
(50 years)
1. B.Sc.
Diploma in fruit tech. from I.C.A.R., N. Delhi, Certificate in Fruit Tech. from CFTRI, Mysore. Certificate in Small Business Management, Trainers and Consultants course in Japan.
2. Food Processing industries in general and Fruit Technology and Allied Inds. in particular.
3. Assistant Director, S.I.S.I., Trichur.

**MAZUMDAR DINESH CHANDRA**
(43 years)
1. M.Sc. in Applied Chemistry.
2. Chemical Industries.
3. Assistant Director, S.I.S.I., Cuttack.

**MUKERJEE M.K.**
(39 years)
1. B.Sc. (Hons.)
M.Sc. (Tech.)
2. Applied Chemistry
3. Assistant Director, S.I.S.I. Ext. Centre, Udaipur.

**MUKHOPADHYAY R.**
(34 years)
1. B.Sc.
Completed Intensive course on corrosion and its prevention.
2. Application of Chemistry.
3. Assistant Director H. Qrs.

**PARMARTHI Dr. R.B.**
(35 years)
1. B.Sc., A.H.B.T.I., M.Sc., (Tech.)
Ph. D. in Tech.
2. Oil and Allied Industries including Essential Oils.
3. Assistant Director, S.I.S.I., New Delhi.

**PICHUMANI R.**
(40 years)
1. Intermediate in Arts and Science. Dipl. of Licentiate in Chem. Engg. Trg. at SIETI, Hyderabad. Trg. in Electroplating, Paints and Varnishes.
2. Chemicals—soaps, Disinfectants, paints and varnishes. Agro Industries.
3. Assistant Director, S.I.S.I., Madras.

**R.C. PALIWAL**
(38 years)
1. B.Sc. (Chem.) Hons. P.I.
Diploma in Chemical Engineering.
Diploma in Chemical Technology.
Associate Member of Indian Institute of Metals.
2. Designing in High Pressure and High Vacuum Plants.
Agro Chemical Industries including Food Products.
Fine and heavy organic chemicals.
High Polymess including Plastics and Rubber
Material of Construction of Chemical Plants and Equipments.
Pesticides and Fertilizers.
Inorganic Chemicals Pure and Industrial.
3. Assistant Director, Hqrs.

**RAGHAVAN R.S.**
(40 years)
1. B.Sc. (Chemistry). Undergone trg. in Indl. Mgt., SIETI Hyderabad. Undergone trg. in Electroplating/Anodising.
2. Electroplating and Anodising.
3. Asstt. Director, S.I.S.I., Cuttack.

**RAHALKAR K.N.**
(54 years)
1. B.Sc.
2. Manufacture of Intermediates.
3. Assistant Director, S.I.S.I., Bombay.

**RAJAN K.S.**
(37 years)
1. B.Sc. (Chemistry). B.Sc. (Tech.)
2. Design of plant and equipment for Chem. Industry particularly that for the mfg. of inorganic chemicals.
3. Assistant Director, S.I.S.I., Bangalore.

**RAOL P.M.**
(43 years)
1. B. Pharm.
2. Pharmaceuticals and Electroplating.
3. Assistant Director, S.I.S.I., Ahmedabad.

**SARKAR S.P.**
(30 years)
1. B.Sc. (Hons) in Chemistry.
M. Tech. in Chemical Engineering and Chem. Technology.
2. Oils Technology—comprising of both minerals and vegetable etc., also specialised in flexible packaging industry.
3. Assistant Director, S.I.S.I., Ahmedabad.

**SATYANARAYANA P.**
1. B.Sc. (Tech.)
Passed the Metal Polishing Tech.
Practice Certificate
Associate Member of Institution of Chemists (India) (equivalent to M.Sc. in Chem).
2. Paints and Varnishes
Metal polishing.
Electroplating.
Synthetic Detergents
Testing of Chemicals paints, etc.
3. Assistant Director, S.I.S.I., Hyderabad.

**SENGUPTA J.**
(45 years)
1. B.Sc. (Indl. Chem.)
Dip. (Soap mfg.)
2. Soap, oils and fats, paints, rubber.
3. Assistant Director, S.I.S.I., Patna.

**SUBRAMANIAM P.A.S.**
(37 years)
1. Inter (Science)
Licentiate in Chemical Engg.
2. Soap, cosmetics and perfumery.
3. Assistant Director, S.I.S.I., Margao.

**WANI V.G.**
(38 years)
1. B.Sc. (Indl. Chem.).
2. Indl. Chemistry.
3. Assistant Director, S.I.S.I., Jaipur.

ALEXANDER A.M.
(40 years)
1. B.Sc. (Indl. Chemistry)
M.Sc. (Tech.)
2. Rubber and Plastics.
3. Small Industries Promotion Officer, S.I.S.I., Trichur.

BANDHOPADHYAYA D.N.
(33 years)
1. B.Sc., M. Tech. (Applied Chemistry) Post Graduate in Paints and Varnish Techs.
2. Paints and Varnishes. Rubber Tech. Synthetic resins and Allied plastics.
3. Small Industries Promotion Officer, S.I.S.I., Cuttack.

BHATNAGAR YOGENDRA SAHAI
(27 years)
1. B.Sc.
2. Research, Development and Analysis of Chem. products.
3. Small Industries Promotion Officer, S.I.S.I., New Delhi.

DATT A.S.
(38 years)
1. Dip. in Electroplating.
2. Metal finishing. Hotdip Galvanising. Metal colouring, anodising. Chemical treatments of metals.
3. Small Industries Promotion Officer, S.I.S.I., Bombay.

DATTA S.K.
(32 years)
1. M.Sc. in Chemistry. Dip. in Indl. Chemistry.
2. Dye stuff and Dye Intermediate, soap oils, fats. Inorganic & Organic Salts
3. Small Industries Promotion Officer, S.I.S.I., Calcutta.

GOPINATHAN P.A.
(32 years)
1. Intermediate (Sc.)
Licentiate in Chem. Engg.
3. Small Industries Promotion Officer Incharge of Extension Centre, Jamnagar.

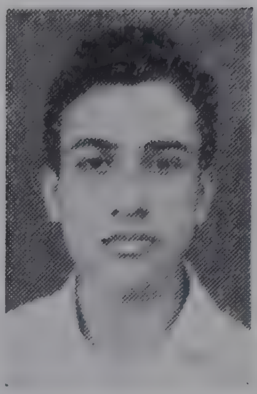
HUSSAINE SYED YAHIYA ULLAH
(29 years)
1. Higher Secondary Certificate of Electroplating.
2. Electroplating.
3. Small Industries Promotion Officer, S.I.S.I., Jaipur.

MUKHERJEE AMITAVA
1. B.Ch.E. (Chemical Engg.)
M. Tech. (IIT Kharagpur)
2 years' Research in High Pressure Laboratory, I.I.T., Kharagpur.
2. Maufacture of caustic-chlorine, caustic-soda, phthalic anhydride, phenol, etc.
3. Small Industries Promotion Officer, Hqrs.

NAMBIAR M.R.
(31 years)
1. Intermediate in Arts and Science. Licentiate in Chemical Engineering.
2. Chemical Engineering.
3. Small Industries Promotion Officer, S.I.S.I., Madras.

PATADIA P.N.
(40 years)
1. B. Pharm.
2. Pharmaceuticals and fine chemicals, cosmetics and plastics.
3. Small Industries Promotion Officer, S.I.S.I., Bombay.

PURANIK L.K.
(55 years)
1. B.A.
2. Metal finishing.
3. Small Industries Promotion Officer, S.I.S.I., Indore.



BHOWMICK SUBHAS MOHAN
(25 years)
1. B. (Chem. Engg.)
2. Chemical Engg. with Food Tech.
3. Investigator, S.I.S.I., Ahmedabad.

RAO S.L.N.
(35 years)
1. B.Sc.
B.Sc. Chemical Engg.
2. Paper products.
Plastics moulding.
3. Small Industries Promotion Officer, S.I.S.I., Hyderabad.

GUPTA M.C.
(37 years)
1. B.Sc.
2. Electroplating.
3. Investigator, S.I.S.I., Kanpur.

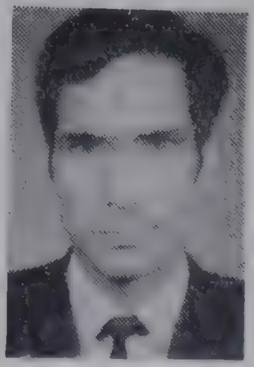
SAHA A.B.
(33 years)
1. B.Sc.
2. Analytical Chemists.
3. Small Industries Promotion Officer, S.I.S.I., Patna.

GUPTA SURJIT KUMAR
(31 years)
1. B.Sc.
2. Chemical Analysis (Org. and Inorg.)
3. Investigator, S.I.S.I., Gauhati.

SANGAL SALEK CHAND
(31 years)
1. Bachelor of Sc. with Physics, Chemistry and Mathematics.
2. Application of Chemistry.
3. Small Industries Promotion Officer, S.I.S.I., Jaipur

HALDER BIKASH CHANDRA
(29 Years)
1. B.Sc. B.O.A.T. Dipl. of Mech. and Elect. Engineering.
2. Analytical Chemistry.
3. Investigator, S.I.S.I., New Delhi.

SHRIVASTAVA RAVI SHANKER LAL
(37 years)
1. B.Sc.
2. Storage Battery and Soap.
3. Small Industries Promotion Officer, S.I.S.I., Agra.

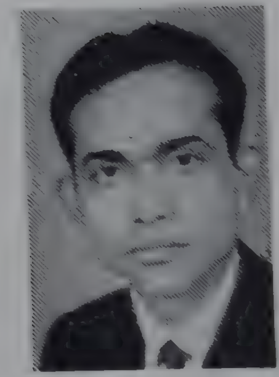


JOSHI MURTI PRASAD
(27 years)
1. M.Sc. (Chem.)
2. Physical Chemistry.
3. Investigator, S.I.S.I., New Delhi.

KAUL MAHARAJ KISHAN
(24 Years)
1. B.Sc., B. Tech., M. Tech. (Chem. Engg. and Chem. Tech.). A.M.S.I.
2. Oils and Petroleum Technology.
3. Investigator, S.I.S.I., New Delhi.

PAPNOI G.D.
(32 years)
1. Certificate in Electroplating.
2. Metal finishing.
3. Investigator, S.I.S.I., Patna.

PAUL SAILESH CHANDRA
(26 years)
1. Bachelor of Chemical Engg.
3. Investigator, S.I.S.I., Cuttack.



SAMPAT KUMAR R.
(24 years)
1. B.Sc.—Phy. Chem. and Maths.
3. Investigator, H. Qrs.

SINGH KISHORE LAL
(29 years)
1. Certificate course from I.T.I. Gaya in Electroplating.
6 months' Supervisory trg. course conducted by P.T.C. Rajkot.
2. Metal finishing (Copper metal, Chromium, Zinc, Cadmium, Silver, Brass and Gold plating). Analysis of plating solution, colouring.
3. Investigator, S.I.S.I. Ext. Centre, Dhanbad.

SRIHARI M.
(32 years)
1. H.S.C.
One year's trg. course in Electroplating at V.I.T.C.
6 months' trg. course in electroplating at B.C.S.
2. Electroplating
3. Investigator, S.I.S.I., Hyderabad.

VAIDYANATHAN P.S.
(33 Years)
1. S.S.L.C. 18 months' course in Electroplating Trade in Madras and 6 months' Advance Course in PTC.
2. Metal Finishing for various Electroplating Baths and Anodizing
3. Investigator, S.I.S.I., New Delhi.

VERGHESE A.D.
(30 years)
1. B.Sc.
2. Fruit preservation and canning.
3. Investigator, S.I.S.I., Goa.

WAGHRAI G.D.
(38 years)
1. B.Sc.
2. Analysis and Testing of Indl. Chemicals and Pharmaceutical products.
3. Investigator, S.I.S.I., Bombay.

## CANE AND BAMBOO

KULKARNI V.K.
(52 years)
1. Passed the Cane and Bamboo Work Training Course.
Special training course under Japanese technicians.
2. Cane and Bamboo industry.
3. Small Industries Promotion Officer, S.I.S.I. Extension Centre, Balsahyog, New Delhi.

## CIVIL ENGINEERING

LAKSHMIAH N.
(45 years)

1.B.A. Madras University, B.E. Civil.

2. Design and Construction of Buildings.

3. Director, H. Qrs.

RICHARD O.C.
(45 years)

1. Diploma in Civil Engg.

2. Industrial Estate construction and planning and guidance of Industrial Estates.

3. Assistant Director, H. Qrs.

SAHA K.K.
(31 years)

1. Diploma in Civil Engg.

2. Civil Engineering constructions and planning for Industrial Estates.

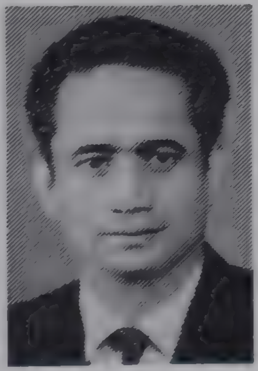
3. Assistant Director, S.I.S.I., Calcutta.

## ECONOMIC INVESTIGATION DIVISION

JAGANNATHACHARI C.
(57 years)
1. M.A., M. Litt.
2. Specialised in economics of small and large scale industries.
Commercial reporting for various columns in the daily newspapers and for specialised columns in financial weeklies.
3. Director, SISI, Madras.
Over 19 years' experience in various capacities.

CHAUDHURI R.L.
(49 years)
1. M.A. (Economics) LL.B.
2. Small Industry Development and Planning.
3. Deputy Director, SISI, Calcutta.

PARAMESHWARAN K.P.
(48 years)
1. M.A. (Economics) Senior Officers' Training in the V.L. Mehta Instt. of Cooperative Management.
2. Industrial Economics, Small Scale Industries Industrial Cooperatives.
3. Director, SISI, Patna.



JAIN O.P.
(50 years)
1. M.A. (Economics) Training in Statistics at the Indian Statistics Institute, Calcutta
2. Industrial and Market potential surveys, Exports Promotional studies.
3. Deputy Director, H. Qrs.

BANSAL K.V.
(38 years)
1. M.A. (Economics with Statistics) Diploma in SSIM (Netherlands).
2. Planning and Development of small scale industries, Market Research and Export Promotion.
3. Deputy Director, SISI, New Delhi.

NARULA B.S.
(47 years)
1. M.A. (Economics) Certificate in Statistics.
2. Industrial Economics.
3. Deputy Director, SISI, Ahmedabad.

**PAUL M.J.**
(52 years)
1. M.A. (Economics) LL.B.
Certificate in Industrial Management.
2. Economic Investigation and Industrial Economics.
3. Deputy Director, SISI, Madras.

**RAMACHANDRAN DR. G.**
(43 years)
1. M.Sc. (Statistics)
Ph.D. (Statistics)
Passed certificate Examination in French. Studied the Industrial Statistics System in Japan under Colombo Plan Training Programme in 1964.
2. Industrial Statistics (with particular reference to small scale industries).
3. Deputy Director (Statistics), H. Qrs.

**RANGARAMU B.N.**
(42 years)
1. B.Sc. (Hons) and M.Sc.
2. Industrial Economics Evaluation and assessment with special reference to small industries.
3. Deputy Director, SISI, Bombay

**SHARMA R.D.**
(43 years)
1. M.Sc. (Agr. Econ. and Estate Management).
2. Economic Investigation and Evaluation.
(Belongs to Indian Economic Service).
3. Deputy Director, H. Qrs.

**SWARAJYA PRAKASH**
(40 years)
1. M.Com. LL.B.
2. Economic Investigation, Industrial Surveys, Import Policy for small scale sector
3. Deputy Director, H. Qrs.

**VERMA DR. J.D.**
(46 years)
1. B. Com., M.A. (Econ.), Ph.D. (Econ.).
2. Industrial Economics Development of Industries International Co-operation Industrial Inf. Service.
3. Deputy Director, H. Qrs.

**ZAIDI S.M.R.**
(35 years)
1. M.A. (Economics).
Fellow United Nations Asian Institute for Economic Development and Planning, Bangkok.
2. International Trade, Industrial Development.
3. Deputy Director, SISI, Kanpur.

**DIVEKAR K.M.**
(50 years)
1. M.A. (Economics and History).
2. Planning and coordination of economic surveys, market analysis.
3. Assistant Director, SISI, Bombay.

**JAITLE Dr. T.N.**
(37 years)
1. M.A. (Econ.), B.Sc. LL.B. Ph.D. (Econ.).
2. Study of problems relating to Foreign Trade and Industrial Development.
5. Assistant Director (Planning), H. Qrs.

**KURUP M.K.J.**
(50 years)
1. M.A. (Economics).
2. Public Finance, Foreign Aid and Industrial Planning.
3. Asstt. Director, SISI, Trichur.

MALPANI M.G.
(46 years)
1. M.A. (Economics), B.Sc.
Training in Statistics at ISI, Calcutta.
2. Industrial Economic Investigation, Planning and Research.
3. Assistant Director, H. Qrs.

MATHUR A.P.
(37 years)
1. M.A. (Economics) with Statistics.
2. Interpretation of the data on Economic matters and drafting of reports.
3. Assistant Director, SISI, Jaipur.

RAINA T.N. (Maju)
(41 years)
1. M.A. (Economics), LL.B.
2. Economic Planning and Research for Industrial Development. Preparation of survey reports on Socio-Economic, Industrial and Agr. fields.
3. Assistant Director, SISI, Srinagar.

RAO M.P.
(39 years)
1.B. Com. (Hons).
2. Economic Surveys:
(a) Area Indl. Development Potentialities Surveys.
(b) Industry Prospect Studies.
(c) Market Surveys and Report writing and editing.
3. Assistant Director, H. Qrs.

SHEWAKRAMANI A.S.
1. M.A. in Economics with Statistics.
Diploma in Book Keeping.
2. Economic Investigation.
Preparation of feasibility reports.
3. Assistant Director, SISI, Indore.

SIVARAMAKRISHNAN V.
(38 years)
1. M.A. (Economics with Industrial and Labour Problems as a special subject)
Training in SIETI, Hyderabad.
2. Economic Research including surveys.
3. Assistant Director, SISI, Goa.

UPADHYAY D.
(41 years)
1. M.A. (Commerce)
2. Economic Investigation and surveys
3. Assistant Director, SISI, Calcutta.

VENGURLEKAR M.G.
(56 years)
1. M.A. (Economics and History).
2. Small industry development.
3. Assistant Director, SISI, Bangalore.

VERMA R.N.
(38 years)
1. M.A. (Economics).
2. Economic Surveys and Investigations for the development of small-scale industries.
3. Assistant Director, SISI, Patna.

AGARWAL S.M.
(38 years)
1. M.A. (Economics).
M.A. (Political Science).
2. Industrial Economics.
3. Small Industries Promotion Officer, H. Qrs.

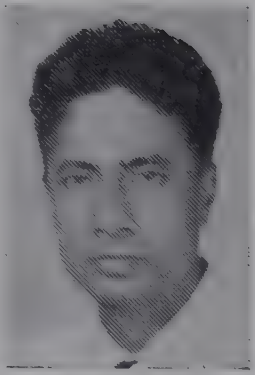
AMAR SINGH
(44 years)
1. B.A. (with Economics).
Industrial Management Course (SIET Institute Hyderabad).
2. Economic Research and Industrial Raw Material (Iron and Steel).
3. Small Industries Promotion Officer, H. Qrs.

BHARTI H.C.
(30 years)
1. M.A. (Economics with Statistics).
2. Economic surveys and investigation for development of small scale industries.
3. Small Industries Promotion Officer, SISI, Patna.

BAJAJ A.S.
(38 years)
1. M.A. (Mathematics).
M.A. (Economics).
2. Industrial Economics.
3. Small Industries Promotion Officer, H. Qrs.

BHATIA H.S.
(37 years)
1. M.A. (Math.).
2. Economic Investigation and Statistics.
3. Small Industries Promotion Officer, SISI, Ludhiana.

BANERJEE K.P.
(47 years)
1. M.A. in Commerce with Statistics. Passed Computer Certificate Exam. from Indian Statistical Institute, Calcutta. Completed Area Development Course at SIETI, Hyderabad.
2. Planning of Economic Surveys, Field Investigations and writing reports thereon.
3. Small Industries Promotion Officer, SISI, Calcutta.



BHATNAGAR N.P.
(37 years)
1. B.A. Economics
Area Survey Course for 3 Months at SIETI Hyderabad.
2. Marketing Research.
Conducting of Surveys, Industry Counselling, Orgn. of Seminars and Exhibitions.
3. Small Industries Promotion Officer, H. Qrs.

BAROHAN P.B.
(32 years)
1. M.A. (Economics).
3. Small Industries Promotion Officer, SISI, Cuttack.

BHATNAGAR R.N.
(41 years)
1. M. Com. with Statistics.
Attended SIETI, Hyderabad, 3 Months Area Development Training.
2. Industrial Economics, Market Research and Area Development.
3. Small Industries Promotion Officer, SISI, New Delhi.

BHARGAVA J.L.
(39 years)
1. M.A. (Economics).
2. Economic Investigation.
3. Small Industries Promotion Officer, SISI, Ludhiana.

Smt. BOSE A.
(38 years)
1. B.A. Economics.
2. Economic Research.
3. Small Industries Promotion Officer, H. Qrs.

CHADHA R.N.
(40 years)

1. M.A. (Economics) with Statistics, Diploma in French, Diploma in Radio Service Engineering.
2. Conducting of field studies, industry analysis and planning reports. Market Research and preparation of distribution aid survey reports.
3. Small Industries Promotion Officer, H. Qrs.

CHAKRAVARTI D.N.
(33 years)

1. M.A. Economics.
2. Industrial Economics and Market Research and Area Development.
3. Small Industries Promotion Officer, SISI, Calcutta.

CHATTERJEE B.
(38 years)

1. B.A. Hons. in Economics.
2. Area Development,
3. Small Industries Promotion Officer, SISI, Calcutta.

CHAUHAN M.S.
(42 years)

1. M.A. Economics, 3 months training in Export Marketing techniques organised by the S.T.C.
2. Export Marketing.
3. Small Industries Promotion Officer, SISI, Indore.

CHOUDHURY J.C.
(45 years)

1. M.A. (Economics).
2. Industrial Economics and Market Research and Area Development.
3. Small Industries Promotion Officer, SISI, Gauhati.

DASS K.K.
(45 years)

1. M.A. (Economics).
2. Market Consultancy, Preparation of analytical study reports on industry and area potential.
3. Small Industries Promotion Officer, SISI, Trichur.

DESIKACHARY V.K.
(35 years)

1. M.A. (Economics with Statistics)
2. Industrial Economic Research for small scale industries
3. Small Industries Promotion Officer, SISI, Goa.

DHAM H.K.
(32 years)

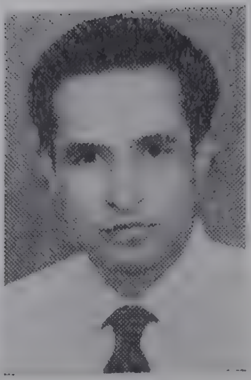
1. B.A. (Hons) Economics, M.A. (Economics), Postgraduate Diploma in Business Management Part-I.
2. Planning and conducting of Economic Surveys— Industry Surveys and analysis.
3. Small Industries Promotion Officer, H. Qrs.

DUTTA P.C.
(41 years)

1. B.A. Hons. in Econ. Training at SIETI, Hyderabad.
2. Industrial Economic Investigation and Market Research Study.
3. Small Industries Promotion Officer, SISI, Calcutta.

GURUSWAMY S.
(46 years)

1. M.A. (Economics).
2. Industrial Economic Research.
3. Small Industries Promotion Officer, SISI, Madras.



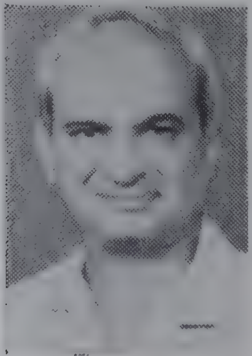
**IYER S. VENKATARAMA**
(49 years)
1. B.A. (Hons).
2. Market Research.
3. Small Industries Promotion Officer, SISI, Madras.

**JAIKRISHAN**
(42 years)
1. M.A. (Economics), M.A. (Economics & Statistics).
2. Economic Investigation and Surveys.
3. Small Industries Promotion Officer, SISI, New Delhi.

**JAIN P.C.**
(35 years)
1. M. Com. (Business Admn. with Economics and Statistics).
2. Diagnostic and Promotional Studies.
3. Small Industries Promotion Officer, SISI, Jaipur.

**JAIN P.C.**
(42 years)
1. M.A. (International Affairs), M.A. Previous (Eco.)
2. Economic Investigation, Market Research and Area Surveys.
3. Small Industries Promotion Officer, SISI, New Delhi.

**JAYAPALAN N.**
(40 years)
1. B.A. (Economics),
2. Market Research, Economic Investigation, Information Service.
3. Small Industries Promotion Officer, SISI, Madras.



**JOSHI R.C.**
(52 years)
1. B.A. (Economics).
2. Industrial Economic Research.
3. Small Industries Promotion Officer, SISI, Bombay.

**KALGHATGI K.A.**
(37 years)
1. B.A. with Economics, Training at SIETI Hyderabad.
2. Techno-Economic Survey of Industrially backward areas.
3. Small Industries Promotion Officer, SISI, Ahmedabad.

**KHULLAR V.P.**
(38 years)
1. M.A. (Economics) with Statistics B.A. (Hons) Economics.
2. Industrial and Economic Surveys, Planning, Development of Industries and Territories.
3. Small Industries Promotion Officer, H. Qrs.

**KOLI H.C.**
(55 years)
1. B.A. (Economics).
2. Area Survey.
3. Small Industries Promotion Officer, SISI, Ludhiana.

**KOLI RAM SWAROOP**
(31 years)
1. M.A. (Economics with Statistics).
2. Economic Research pertaining to small scale industries.
3. Small Industries Promotion Officer, SISI, Kanpur.

**LODI M.A.K.**
(39 years)
1. M.A. (Economics).
2. Economic studies relating to small scale industries.
3. Small Industries Promotion Officer, SISI, Hyderabad.

MADAN LAL
(44 years)
1. M.A. Economics with Statistics, Preliminary Exam. in Japanese, Indl. Management Trg. at the S.I.E.T.I. Hyderabad.
2. Evaluation Techniques in the programme evaluation organisation (Planning Commission). Economic surveys. Appraisal of loan applications from small scale units.
3. Small Industries Promotion Officer, H. Qrs.

MAHALE N.G.
(43 years)
1. M.A. (Economics).
2. Area Development.
3. Small Industries Promotion Officer, SISI, Margao.

MARWAHA VIRENDRA NATH
(37 years)
1. M.A. (Economics).
2. Industrial Applied Economics.
3. Small Industries Promotion Officer, H. Qrs.

MISRA R.K.
(45 years)
1. M.A. (Economics), LL.B. Certificate in Law of Income Tax.
2. Conducting of Economic Studies and Surveys. Training and Guidance in Export Promotion.
3. Small Industries Promotion Officer, SISI, Jaipur.

MOHANCHANDRAN S.
(40 years)
1. B.Sc. (Math), M.Sc. (Statistics).
2. Industrial Economics, Industrial Management.
3. Small Industries Promotion Officer, SISI, Trichur.

MUKHERJEE B.K.
(38 years)
1. M.Sc. with Trg. in Indl. Management and Reliability Engineering.
2. Techno-Economic and Statistical Surveys, Market research.
3. Small Industries Promotion Officer, SISI, Bangalore.

MUKHERJEE G.P.
(37 years)
1. M. Com (Statistics).
2. Techno-Economic Survey of Industries, Preparation of feasibility reports, Diagnostic study of economic and financial position of units and export promotional work.
3. Small Industries Promotion Officer, SISI, Ludhiana.

MURALEEDHARAN V.
(36 years)
1. M.Sc. (Math) with Statistics.
2. Economic Investigation, Area, Industrial and Market Surveys.
3. Small Industries Promotion Officer, SISI, Bangalore.

MURTHY H.N.
(39 years)
1. B.A.
2. Preparation of Area Survey Reports, I.P. Sheets.
3. Small Industries Promotion Officer, SISI, Hyderabad.

PANDIT KAKA RAM
1. M.A. (Stat.).
2. Statistical Surveys and Economic Investigations.
3. Small Industries Promotion Officer, SISI, Srinagar.

PEDNEKAR M.D.
(43 years)
1. B.A. (Hons) with Honours in Econ. and LL.B.
2. Economic Investigation and Export Marketing.
3. Small Industries Promotion Officer, SISI, Bombay.

PERUMAL P.K.
(31 years)
1. M.A. (Economics).
2. Demand Forecasting for Industrial products and functional and Economic classifications of industries.
3. Small Industries Promotion Officer, SISI, Madras.

QIDWAI A.A.
(41 years)
1. M.A. (Economics) LL.B. Diploma in Foreign Affairs and Diplomacy.
2. Economic Investigation.
3. Small Industries Promotion Officer, SISI, Kanpur.

RAMAKRISHNAN S.
(40 years)
1. M.A. (Economics) with Statistics.
2. Socio-Economic Survey, Industry Survey, Area Surveys relating to industries.
3. Small Industries Promotion Officer, SISI, Cuttack.

RAMANATHAN R.
(39 years)
1. B.A., B.Sc. Hons., Degree in Statistics with Industrial Statistics as a special subject.
2. Quality control, Production Planning and Control, Inventory Control, Work Sampling and Marketing Research.
3. Small Industries Promotion Officer, SISI, Hyderabad.

SAIGAL M.M.
(40 years)
1. M.A. (Economics).
2. Economic and Industrial Research
3. Small Industries Promotion Officer, H. Qrs.

SAXENA M.M.
(37 years)
1. M.Sc. Applied Maths. with Statistics,
Certificate Course in Statistics,
Training in Operations Statistics.
2. Industrial Statistics.
3. Small Industries Promotion Officer, H. Qrs.

SAXENA S.C.
(42 years)
1. M. Com., Diploma in Small Industries Managements (Netherlands).
2. Economic & Industrial Research.
3. Small Industries Promotion Officer, H. Qrs.

SENGUPTA S.N.
(44 years)
1. B. Com., Passed Computer Certificate Exam.
2. Industrial Examination and Market Research.
3. Small Industries Promotion Officer, SISI, Calcutta.

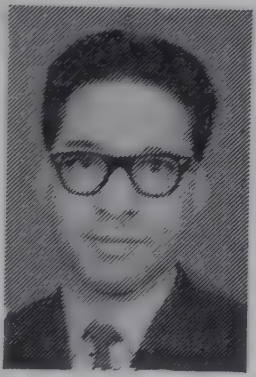
SHARMA C.L.
(38 years)
1. M. Com.
2. Economic Investigation.
3. Small Industries Promotion Officer, SISI, Kanpur.

SINGH HARBANS
(40 years)
1. M.A. (Economics), LL.B.
2. Planning and Conducting of Industrial and Economic Surveys. Allocation & Distribution of Imported and scarce non-ferrous materials; Import Policy & procedure for small industries.
3. Small Industries Promotion Officer, H. Qrs.

SOHONI S.G.
(40 years)
1. M. Com.
2. Industry Information Service, Economic Surveys, Marketing.
3. Small Industries Promotion Officer, SISI, Indore.

SUBRAMANIAM N.G.V.
(43 years)
1. M.A. (Economics)
2. Economic Investigation and Market Research.
3. Small Industries Promotion Officer, SISI, Bombay.

TANDON M.L.
(35 years)
1. M.A. (Economics with Statistics).
2. Economics of development.
3. Small Industries Promotion Officer, SISI, New Delhi.



THOMAS C.T.
(37 years)
1. M.A. (Economics).
2. Market Research, Area Development and Industry Surveys, Intensive Development Campaigns, Industry Information Service.
3. Small Industries Promotion Officer, H. Qrs.

TRIPATHI B.M.L.
(44 years)
1. M.A. (Economics),
M.A. (Geography) LL.B.
2. Economic Investigation.
3. Small Industries Promotion Officer, SISI, Kanpur.

UPPAL G.S.
(33 years)
1. M.A. (Economics),
Training in Area Development in SIETI, Hyderabad.
2. Socio-economic surveys, Economic Investigation relating to small scale units.
Indl. Potentialities surveys, Indl. counselling.
3. Small Industries Promotion Officer, SISI, Cuttack.

VAID C.L.
(42 years)
1. M.A. (Economics with Statistics).
3. Small Industries Promotion Officer, SISI, New Delhi.

YARDI R.C.
(37 years)
1. M.Sc. (Statistics).
2. Evaluation Studies, Statistical Quality Control.
3. Small Industries Promotion Officer, SISI, Ahmedabad.

ABRAHAM VERGHESE
(32 years)
1. B.A. (Economics), LL.B.
2. Economic Investigation.
3. Investigator, SISI, Bangalore

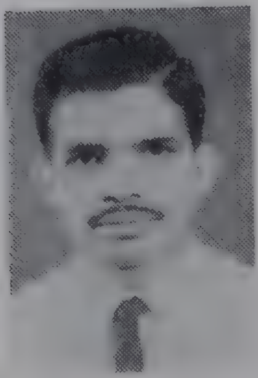
Smt. AJIT KAUR
(36 years)
1. B.A. L.T.
2. Investigator, SISI, New Delhi.

BALAN S.
(25 years)
1. B.A. Hons (Math.) Passed the Intermediate Examination of the Instt. of Cost and Works ,Accounts.
2. Economic Investigation.
3. Investigator, H. Qrs.

BHATTACHARYA H.K.
(34 years)
1. B.A. Economics and Math. Certificate in Statistics (Post Graduate).
Undergone training in electronic data processing system and Gobol Programming Language in Honeywell
2. Statistics.
3. Investigator, H.'Qrs.

KERKETTA SABINUS
(26 years)
1. B.A.
2. Economic Information.
3. Investigator, SISI, Patna.

GHOSHAL A.B.
(36 years)
1. B.A. (Economics).
2. Economic Investigation
3. Investigator, SISI, Kanpur.

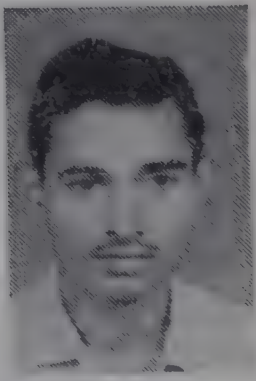


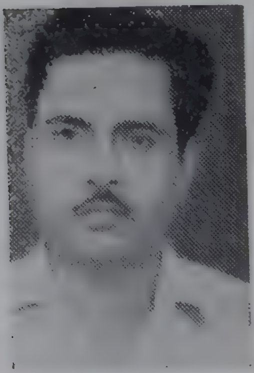
KUMAR PREMS
(36 years)
1. B.A. Economics, M.A. Public Admn., Dipl. in Public Admn., Deg. in Journalism.
2. Economic Investigation.
3. Investigator, SISI, Hyderabad.

GIRIJAVALLABHAN M.
(31 years)
1. B.A. (Economics).
2. Economic Investigation.
3. Investigator, SISI, Madras.

MALTHURAM BAKAURE
(33 years)
1. M.A. (Economics) LL.B.
2. Economic Investigation.
3. Investigator, SISI, Indore.

HAQ AINUL
(26 years)
1. M. Com.
3. Investigator,
SISI, Bangalore.





MANSURI A.R.
(31 years)
1. M.A. Economics with Stats.
2. Economic Investigation.
3. Investigator, SISI, Kanpur.

KANOJIA M.L.
(42 years)
1. B.A. with Economics.
2. Economic Investigation and Market Research.
3. Investigator, SISI, Bombay.

KAUL M.L.
1. B.A. (Double Course of Maths)
M.A. (Part I) Math.
Diploma in Stats.
2. Economic Investigation and statistical surveys.
3. Investigator, SISI, Srinagar.

MARANDI A.
(35 years)
1. B.A.
2. Unit Surveys.
3. Investigator, H. Qrs.

MEDHI G.C.
(30 years)
1. B.A. (Economics).
2. Economic survey of industry.
3. Investigator, SISI, Gauhati.

SAGAR S.L.
(46 years)
1. B.A. Economics
2. Preparing of Statistical data
3. Investigator, H. Qrs.

PRASAD DAYANAND
(29 years)
1. M.A. (Economics).
2. Economic Investigation.
3. Investigator, SISI, Calcutta.

SAIGAL V.D.
(24 years)
1. B.A.
2. Economic Research work, collection of statistical data.
3. Investigator, SISI, Ahmedabad.

RAWAT R.S.
(31 years)
1. B.A. Economics.
2. Economic Investigation.
3. Investigator, H. Qrs.

SINGH T.N.
(35 years)
1. M.A. (Political Sc. and Economics).
2. Indl. Estate and small scale industries.
3. Investigator, SISI, Patna.

ROY A.R.
(41 years)
1. M.A. in Modern History and Political Sc.
2. Economic Investigation.
3. Investigator, SISI, Calcutta.

SRIVASTAVA C.P.
(28 years)
1. M.A. (Economics).
2. Economic Investigation.
3. Investigator, SISI, Kanpur.

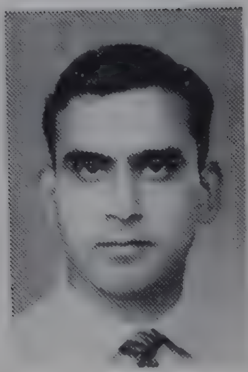
ROY B.B.
(32 years)
1. B.A. Economics.
2. Economic Surveys of Industry
3. Investigator, SISI, Gauhati.

TIKA RAM
(35 years)
1. B.A.
2. Economic Investigation.
3. Investigator, H. Qrs.

VELAYUDHAN P.K.
(37 years)
1. B.A.
2. Economic Investigation.
3. Investigator, SISI, Madras.

VERMA S.P.
(34 years)
1. B.A. Economics
2. Conducting of economic studies and surveys and other industrial activities.
3. Investigator, SISI, Jaipur.

VENKATASUBRAMANIAM M.
(35 years)
1. B.A. Economics.
2. Economic Investigation.
3. Investigator, SISI, Madras.



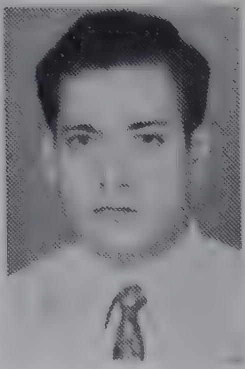
WASNIK N.D.D.
(28 years)
1. B. Com.
2. Market Research,
Industry Assistance.
3. Investigator, SISI, Bombay.

## ELECTRICAL DIVISION

BAPURAJ J.V.
(39 years)
1. Dipl. in Elect. Technology,
Work study course NPC,
Power Production course (ASEA—Sweden),
Electrical Supervisor certificate.
2. Expertise in Production of Light Mechanical and Electrical machinery and equipment.
Development of Ancillary Industries
3. Deputy Director, H. Qrs.

MAJUMDAR BIMALENDU
(45 years)
1. M.Sc. with Wireless Communication as Spl. subject.
Post Graduate Diploma in Electrical Technology.
Certificate in work study course from N.P.C.
Certificate in French Language.
8 months trg. in France in pattern of development of electric and electronic industries.
2. Planning and Development of Electrical and Electronic industries.
Preparation of Indl. Project Reports.
3. Deputy Director, H. Qrs.

GHOSH AHINDRA NARAYAN
(38 years)
1. Bachelor of Electrical Engineering (Honours),
Advanced training in Mgt. Consultancy in France for one year.
2. Electrical Engineering and Management Consultancy.
3. Deputy, Director, S.I.S.I. Calcutta.

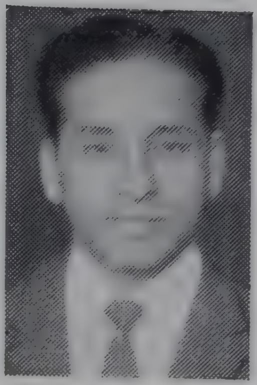


SHARMA S.K.
(40 years)
1. B.E. (Electrical) Dipl. in S.S.I. Management, Delf (Netherlands).
Certificate in work study N.P.C., New Delhi.
2. Planning organisation standardisation and quality control in Electrical Engg. and Electronics Engg.
3. Deputy Director,
S.I.S.I., New Delhi.

BASU CHANCHAL
(29 years)
1. B.E.
2. Manufacture of Rectifiers, Battery chargers etc.
3. Assistant Director, S.I.S.I., Bombay.

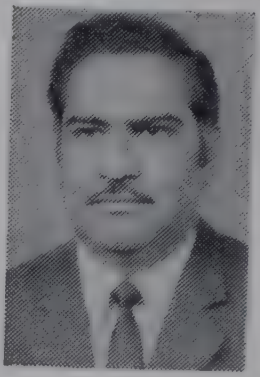
SRINIVASAN A.
(56 years)
1. S.S.L.C.
Diploma in Elect. Engg.
2. Design and manufacture of electric motors (Squirrel Cage.)
3. Assistant Director, S.I.S.I., Madras.

KRISHNA RAO K.S.
(41 years.)
1. Diploma in Electrical Engineering (LEE).
Undergone Aeronautical Trade Apprenticeship course (Practical works training) sponsored by M/S. Hindustan Aircraft Ltd., Bangalore.
2. Quality Control.
3. Assistant Director,
Incharge of Industrial
Extension Centre, Mysore.



SUKUMARAN B.
(40 Years).
1. S.S.L.C.
Inter Part I and II, Certificate course in Electronics and Refrigeration.
2. Domestic Electrical Appliances.
3. Asstt. Director, S.I.S.I., New Delhi.

VARMA P.P.
(37 Years)
1. F.Sc. (Non-medical)
Diploma in Electrical and Mechanical Technology.
Electrical Foreman's Licence of Delhi Administration.
2. Designing and execution of Electrical installation of Industrial and Commercial types.
Maintenance of Power installation and sub-station equipments.
3. Assistant Director, SISI, New Delhi.



RADHAKRISHNAN C.
(44 years)
1.B.Sc.
B.E. (Elect. Engg.).
2. Electrical and Electronics.
3. Assistant Director (Elect.) Incharge of Extension Centre, Pondicherry.

ACHARYA NANDAKUMARA S.
(32 years)
1. Licentiate in Elect. Engg.
Associate Member of India Society of Engrs.
2. Electrical Engineering.
3. Small Industries Promotion Officer, S.I.S.I. Calcutta.

RAJAGOPALAN T.R.
(41 years)
1. Licentiate in Electrical Engineering.
2. Electrical appliances.
3. Assistant Director, S.I.S.I., Hyderabad.

BAYLIS A.
(46 years)
Matric.
Aeronautical inspection course.
Electrical Instructors course. Dipl. in Elect. Crafts.
2. Design of Elect. motors.
3. Small Industries Promotion Officer S.I.S.I., Madras.

**BHATTACHARYA S.R.**
(29 years)
1. Dipl. in Elect. Engg.,
Training in SIETI.
3. Small Industries Promotion Officer,
S.I.S.I., Kanpur.

**GROTRA R.K.**
(33 years)
1. F.Sc.
Radio Mech. Polytechnic Nilokheri.
Tech. Proficiency Exam. from 505 Army Base Wksps, Delhi Cantt.
Training in SIETI.
2. Radios, P.V.C. Wire Cables, instruments.
3. Small Industries Promotion Officer,
S.I.S.I., Jaipur.

**KURKURE M.K.**
(39 years)
1. Matric Completed trg. in Elect. Engg. technology, Passed Petty Officer Electrical (Power) course from Indian Navy,
Electrical Instructors Training at C.T.I. Koni, Training in SIETI.
2. Manufacture of Miniature bulbs and Elect. accessories switch gears etc. Maintenance of Elect. gears of all kinds.
3. Small Industries Promotion Officer, S.I.S.I., Bombay.

**NAGARAJA RAO N.S.**
(37 years)
1. S.S.L.C., L.E.E. (Mysore)
2. Switch gears.
3. Small Industries Promotion Officer,
S.I.S.I., Patna.

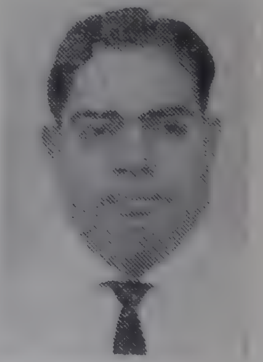
**NAQVI H.A.**
1. Intermediate. Diploma in Elect. Engineering.
2. A.E. Electric Motors.
3. Small Industries Promotion Officer,
S.I.S.I., New Delhi.

**PANDURANGAN M.V.**
(37 years)
1. Licentiate in Elect. Engg.
2. Maintenance and repairs of Elect. Equipment, High Tension switch gear transformers etc.
3. Small Industries Promotion Officer,
SISI, Hyderabad

**PADMANABHAN M.R.**
(36 years)
1. Radio Engineering Course. Telecommunication Engineering Course
2. Design and development of Elect. and Electronic Industrial products.
3. Small Industries Promotion Officer,
S.I.S.I., Bombay.

**PARIMANAM M.**
(37 years)
1. Dipl. in Elect. Engg.
2. Maintenance of Elect. Power house equipments. Elect. motor production and other allied items.
3. Small Industries Promotion Officer,
S.I.S.I., Trichur.

**RAMAKRISHNAN M.**
(37 years)
1. S.S.L.C. Licentiate in Elect. Engineering. Training in SIETI.
2. Testing of single phase, 3 phase and Trivector meters.
3. Small Industries Promotion Officer,
S.I.S.I., Bangalore.



**RADHAKRISHNAN P.D.**
(44 years)
1. Inter (Arts and Sc.) Dipl. of Licentiate in Cinematography and Sound Engg.
2. Sound Engineering.
3. Small Industries Promotion Officer,
S.I.S.I., Madras.

**RAO K.B.V.S.**
(30 years)
1. Licentiate in Elect. Engg.
2. Elect. Engineering.
3. Small Industries Promotion Officer, S.I.S.I., Madras.

**SAHAE D.B.**
(31 years)
1. National Diploma in Elect. Engg. Degree in Engg. A.M.I.E. (India) Diploma in Industrial Management—Delhi University. A.M.I.I.E. M.B.A.
2. Industrial Engineering and Management Consultancy to Small Scale Industries.
3. Small Industries Promotion Officer, SISI, Madras. At present on deputation as Technical Officer Small Scale Industries, Development Deptt. State Bank of India, New Delhi.

**VANAMAMALAI R.K.**
(36 years)
1. S.L.C. Dipl. in Elect. Engineering. P.T.C. course Radio Electronics Instruments Trg.
2. Designing, Testing, layouts etc. Development of ancillary industries in relation to small Industries.
3. Small Industries Promotion Officer H. Qrs.

**AMRITHA Km. T.**
(23 years)
1. Dipl. in Electronics Engineering.
2. Public address system (Electro Accoustics).
3. Investigator, H. Qrs.

**GANGADHARAN K.**
(26 years)
1. Diploma in Elect. Engg.
2. Electrical Engineering.
3. Investigator, S.I.S.I., Calcutta.

**RAMAPERSAD S.**
(31 years)
1. Licentiate in Elect. Engineering.
2. Elect. Engineering.
3. Investigator, S.I.S.I., Calcutta.

**VARADARAJAN S.**
(36 years)
1. S.S.L.C. Diploma in Elect. Engg. Training in SIETI.
2. Electrical Engg. testing and caliberation of Electrical meters, equipment and machines
3. Investigator, S.I.S.I., Madras.

**VERGHESE M.K.**
(36 years)
1. Diploma in Elect. Engineering.
3. Investigator, S.I.S.I., Hubli (Bangalore)

**VAVA PURUSHAN**
(28 years)
1. Diploma in Elect. Engg.
3. Investigator, S.I.S.I., Bombay.

# GLASS AND CERAMICS

MAHESHWARY Dr. V.P.
(47 years)
1. B.Sc. (Ceramics Technology—B.H.U.) M.Sc. (Ceramic Engg.—U.S.A.) .
Ph.D. (Cer. Engg.—U.S.A.)
2. Glazed Ceramic Tableware and Fireclay Refractories.
3. Deputy Director Incharge, Small Industries Service Instt., Jaipur.

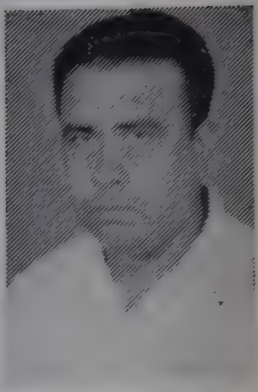
SEDALIA Dr. B.M.
(47 years)
1. B.Sc. (Chemistry),
M.Sc. (Ceramic Engg.—U.S.A.)
Ph.D. (Ceramic Engg.—U.S.A.)
2. Ceramic Engineering covering the manufacture and research in specialised fields of refractories, whitewares, stonewares, structural clay products and abrasive products.
3. Deputy Director Incharge, SISI, Rajkot.

MIDHA P.C.
(51 years)
1. B.Sc. Tech. (Glass).
2. Glass Industry: Manufacture of all types of glasswares, including Thermometers, Syringes, Grinding and polishing of lenses.
3. Deputy Director, S.I.S.I., Kanpur.

AGARWAL G.C.
(36 years)
1. B.Sc. (Tech.) Glass and Ceramics Technology.
2. Glass and Ceramics and allied subjects.
3. Asstt. Director, S.I.S.I., Rajkot.

AGRAWAL K.K.S.
(44 years)
1.B.Sc. Tech. (Glass).
2. Glass Industry.
3. Asstt. Director Incharge, Extension Centre, Firozabad.

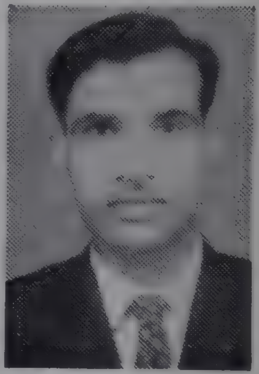
BANERJEE S.N.
(42 years)
1. B.Sc., Diploma in Ceramic Technology.
2. Vitreous Enamelware, Electrical Porcelain, Ceramic Whitewares, special Refractories, special Porcelainwares etc.
3. Asstt. Director.



GHATGE V.K.
(48 years)
1. B.Sc. in Ceramic Technology.
2. Pottery and Porcelain and Refractories.
3. Assistant Director, S.I.S.I., Bombay.

GOPINATHAN P.
(45 years)
1. B.Sc. (Tech.),
Underwent Trg. in U.K. and France.
2. Glass Technology. Manufacture of glass containerwares, mirrors, Cathode Ray tubes, glass tubes and rods.
3. Assistant Director, SISI, Madras.

GOVINDA RAO B.S.
(38 years)
1. S.S.L.C. Diploma in Glass Technology, Certificate in Scientific Glassware Mfr.
Certificate in Industrial Management Course.
2. Manufacture of Glass and Glassware, Neon Signs, Scientific Glass Apparatus and Thermometers.
3. Assistant Director, SISI, Bangalore.



MALHOTRA D.R.
(51 Years)
1. B.Sc. (Industrial Chemistry with Ceramics as special subject) Diploma Ceramics Technology (Pottery and Porcelains) Resarch Scholar at Punjab University Instt. of Chemistry, Lahore.
2. Testing of Ceramics raw materials and their utilization in pottery industry.
Crockery, Low Tension insulators and artwares Insulating cements.
3. Asstt. Director S.I.S.I., New Delhi.

**MAYEE P.D.**
(28 years)
1. M.Sc., Diploma from Indian Institute of Technology.
2. Applied Optics
3. Asstt. Director, S.I.S.I., New Delhi.

**GOYAL D.R.**
(42 years)
1. B.Sc. Tech. (Glass).
2. Glass and Lens manufacturing.
3. Small Industry Promotion Officer, S.I.S.I. Ext. Centre, Ferozabad.

**RAO D.V.**
(55 years)
1.B.Sc. Indl. Chemistry with Ceramics as special subject.
B.Sc. Glass Technology.
2. Glass Industries, Thermometer manufacture, refractories, cement products, and all allied ceramic and glass industries.
3. Assistant Director, S.I.S.I., Hyderabad.

**KAPOOR H. RAI**
(32 years)
1. Intermediate in Science. Certificate in ceramic manufacture.
2. Ceramic Manufacture.
3. Small Industry Promotion Officer, S.I.S.I., Indore.

**AMBIGAPATHY M.**
(33 years)
1.S.S.L.C. Diploma in Ceramic Technology. Certificate in Pottery Industry.
2. Manufacture of Crockery Wares, Stoneware Jars, Fire bricks, Insulation bricks, Electrical and other insulators, Ceramic items.
3. Small Industry Promotion Officer, SISI, Bangalore.

**MUNDARGI S.R.**
(32 years)
1. B.Sc. (Hons).
M.Sc. (Glass Tech.)
2. Glass Technology.
3. Small Industries Promotion Officer, S.I.S.I., Bombay.

**DAS CHATUR CHANDRA**
(40 years)
1. Diploma in Ceramics Engineering.
2. Refractory and Pottery.
3. Small Industry Promotion Officer, SISI, Calcutta

**MURTHY D.N. KESHAVA**
(33 years)
1. S.S.L.C.
Diploma in Ceramic Tech. (Mysore).
2. Whitewares and Refractories; manufacture of H.T. and L.T. insulators and Bushings. E.H.V. line insulators.
3. Small Industries Promotion Officer, S.I.S.I., Patna.

**GOEL G.C.**
(35 years)
1. Matric, Certificate course in Ceramic Technology. Certificate course in Ceramic Artwares.
2. Refractories, Whitewares and decorated potteries.
3. Small Industry Promotion Officer Goa.

**NAIR M.K.**
(47 years)
1. B.A.
Diploma in Ceramics.
2. Whiteware (Crockeries and insulators),
Refractoryware (Fire clay bricks), Red clay products (bricks and tiles).
3. Small Industries Promotion Officer, S.I.S.I. Trichur.

RAO D.R.
(42 years)
1. S.S.L.C.
Diploma in Glass Tech.
Certificate in Business Management Training.
2. Scientific Glass Apparatus. Optical Lens Grinding Glass Beads.
3. Small Industries Promotion Officer, S.I.S.I., Bangalore.

RAO P.P.
(34 years)
1. Diploma in Ceramic (Glass and Enamel).
2. Manufacture of glass items, vitreous enamelware and scientific glass.
3. Small Industries Promotion Officer, S.I.S.I., Trichur.

REDDY M.V.
(35 years)
1. Diploma in Glass and Ceramic Technology.
2. Glass and Ceramics.
3. Small Industries Promotion Officer, S.I.S.I., Hyderabad.

SINHA L.T.P.
(32 years)
1. Post Diploma Certificate in Ceramics Research (Japan).
Diploma in Ceramic technology. Certificate in factory management and production control.
2. Ceramics whitewares.
3. Small Industries Promotion, Officer S.I.S.I., New Delhi.

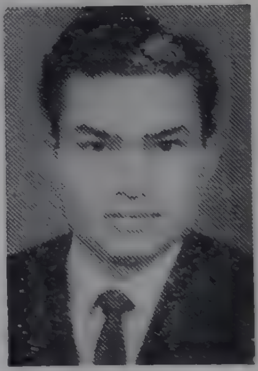
AMAR PRAKASH
(38 years)
1. Matric, Certificate course in Pottery and Porcelain Apparenticeship in pottery.
2. Composition of Ceramic Glazes & Bodies. Construction of downdraught and Muffle furnaces. Manufacture of Ceramic Glass colours and lustres.
3. Investigator, S.I.S.I., Kanpur.

MARKANDE N.S.
(49 years)
Standard IV (Marathi)
2. Pottery
3. Investigator, S.I.S.I., Rajkot.

NARASIMHA RAO V.
(33 years)
1. Diploma in Tech. (Ceramic, Glass and Enamel).
2. Specialised in glass, glassbeads, Pota Variety, Enamel Vitreous manufacturings.
3. Investigator, S.I.S.I., Hyderabad.

RAO P.S.
(27 years)
1. S.S.L.C. Diploma in Ceramic Engg.
2. Ceramics.
3. Investigator, S.I.S.I., Madras.

SEELAM C.K.
(32 years)
1. Diploma in Ceramic Engg.
2. Industrial Ceramics, Refractories, Insulators, Sanitarywares, stoneware, vitreous and glazed tiles, Artwares, crockery etc.
3. Investigator, S.I.S.I., Madras.



SUBRAMANYAM C.H.
(29 years)
1. B.Sc. Diploma in Industrial Chemistry, Certificate in the manufacture of Thermometer, Certificate in Business Management, Certificate in pesticides formulations and inks.
2. Manufacture of Thermometers and Scientific Glassware. Manufacture of Chemical items.
Analysis of Electroplating items etc.
3. Investigator, S.I.S.I., Bangalore.

# HOSIERY

PRASAD R.R.
(40 years)
1. B.Sc. Certificate in Textiles (Manufacture of Hosiery and Knitted goods) from U.K.
2. Hosiery.
3. Director, S.I.S.I., Indore.

ARORA R.L.
(28 years)
1. B.A. Economics. Dip. in Hosiery Technology. Manufacture of Hosiery from C and G. London Institute. Certificate in FF weaving.
2. Hosiery and Textile.
3. Investigator, S.I.S.I., Ludhiana.

VARSHNEY S.M.
(44 years)
1. Diploma in Textile Technology.
2. Hosiery.
3. Small Industries Promotion Officer, S.I.S.I., New Delhi.

DE SASANKA MOHAN
(40 years)
1.Dip. in Hosiery
2. Warp knitting and socks manufacture.
3. Investigator, S.I.S.I., Calcutta.

GANGULY SUKUMAR
(43 years)
1. Matric Standard.
2. Warp knitting and design socks manufacture.
3. Investigator, S.I.S.I., Calcutta.

# IMT AND EXPORT PROMOTION DIVISION

NAU NIHAL SINGH Dr.
(48 years)
1. M.A. (Econ. and Sociology) LL.B., Ph.D., M.B.I.M. (Lon), M.I. Ex (Lon), Dip. in Indl. Management (Glasgow) Dip. in Foreign Trade (Paris).
2. Industrial Management, Development and Export Promotion.
3. Director, H. Qrs.

KUPPUSWAMY C.V.
(42 years)
1. B.Com. B.L. Training in SIETI, Hyderabad. Attended a 26 weeks training course in Tokyo (Japan) under the auspices of APO in Small Business Management Training and Consultancy.
2. Management Training Programmes for Small Scale Industries.
3. Deputy Director, S.I.S.I., N. Delhi.

**MEHAN K.K.**
(41 years)
1. B.Com. M.A. (Eco) A.M.B.I.M. (Lon) M.I.E. (Ind) attended Mgt. Trainers and Consultants Courses in Japan. Advanced Trg. at Harvard Business School.
2. Industrial Management and Indl. Engineering.
3. Dy. Director, S.I.S.I., Bombay.

**MOTWANI L.N.**
(52 years)
1. M.A. Economics and Stats. Two diploma courses on Higher Accountancy. Training in SIETI.
2. Small Industry Management/ Finance Exports and Ancillary Development.
3. Dy. Director, S.I.S.I., New Delhi.

**RYAN F.A.**
(39 years)
1. B.Com (Madras) Specialisation in Co-operation (University of Madras) Certificate in Industrial Admn. (Japan)
2. Community Development and Co-operation; Extension and Management Training, Indl. Administration with emphasis on productivity.
3. Dy. Director, S.I.S.I., Madras

**BABBAR B.R.**
(54 years)
1. B.A. LL.B.
2. Industrial Management.
3. Asstt. Director, S.I.S.I., Srinagar.

**BALASUBRAMANIYAN T.S.**
(47 years)
1. B.A. (Hons. Madras) Research Scholar in Madras University (2 years) Diploma in Cost Accountancy, Training in I.M.T. and special Financial Management course SIETI Hyderabad.
2. Cost Accounting with specialisation in application of cost principles in Small Industries.
3. Asstt. Director, S.I.S.I., Madras.

**BANNERJEE P.**
(47 years)
1. M.A., B. Com., A.I.C.W.A. Dip. Indl. Management ICWA (Int) London, Certificate in Business Management Trainers and Consultants (Tokyo).
2. Indl. Mgt. Cost Accounting Fin. Accounting. Indl. Engineering.
3. Asstt. Director, SISI, Patna

**BANNERJEE P.N.**
(46 years)
1. M.Com. Cert. A.I.I.B. (P. 1)
2. Export Marketing and Financial Accounting.
3. Asstt. Director, S.I.S.I., Calcutta.

**BARI MOHD. ABDUL**
(41 years)
1.B.Sc. Trg. in SIETI, Trg. in Japan and in Hongkong in Mgt.
2. Personnel management and Indl. Relations Export marketing.
3. Assistant Director, SISI, Gauhati.

**BORAL I.C.**
(43 years)
1. B.Com., Fellow member of I.I.F.T., Export marketing in IIFT, Indl. Mgt. in SIETI, Small Industry Productivity and Executive Development Programme., National Productivity Council.
2. Industrial Management and Export Marketing.
3. Astt. Director, SISI, Cuttack.

CHADHA V.S.
(49 years)
1. Bachelor of Science.
2. Marketing Management.
3. Assistant Director, H. Qrs.

DUTTA A.K.
(49 years)
1. M.A. Economics, Military Certificate Exam. A.M.B.I.M. (London).
2. Mgt. consultancy. Marketing and Trg. both managerial and technical.
3. Assistant Director, SISI, Indore.

ISAAC S.K.
(43 years)
1.B.A. (Hons) Trg. in SIETI (Hyderabad) Indian Institute of Foreign Trade, New Delhi Attended course on Training of Trainers by N.P.C. Bangalore.
2. Indl. Administration, Marketing Management, Export Marketing Techniques.
3. Asstt. Director, SISI, Madras.

KAPUR KAMAL
(38 years)
1. MA.,LL.B., B.I.M. (London) A.I.W.S.U.K. Inter C.I.S. England.
2. Industrial Management and Work Study.
3. Asstt. Director, H. Qrs.

KRISHNAN K.A.
(41 years)
1. M.A. (Maths) A.M.I.I.E. Post Graduate Specialisation in Statistical method and Indl. Mgt.
2. Industrial Management.
3. Asstt. Director, SISI, Bangalore.

NANAK SINGH
(49 years)
1. M.A. (Economics), Fellow and Associate |Book-Keepers Institute, London. Three Years' Post-graduate Diploma in Business Mgt., Master in Business Administration, Work Study Course (N.P.C.)
2. General Management, Financial Management, Export Marketing.
3. Asstt. Director I/c. Balsahyog, E.C. S.I.S.I., New Delhi.

PATEL J.C.
(43 years)
1. M.A., B. Com., D.B.M.
2. Industrial Management, Financial Management and Cost Accountancy, Export Marketing.
3. Asstt. Director, S.I.S.I., Bombay.

SEHGAL R.N.
(44 years)
1. M.A. Economics. Bachelor of Law Proficiency of Law.
2. Marketing Management, General Management, Personnel Management, Management Accounting, Financial Management, Commercial and Industrial Legislation.
3. Assistant Director, SISI, New Delhi.

SHARMA B.M.
(41 years)
1.M.A. (Economics) B. Com. With advance Accountancy and Auditing.
2. Industrial Management, Financial Management, Cost Accountancy and Cost Control, Management accounting.
3. Asstt. Director, S.I.S.I., Bombay.

SHARMA S.C.
(44 years)
1. M.Com., B.Com. (with Advance Accountancy).
2. Industrial Management, and Financial Management.
3. Asstt. Director, S.I.S.I., Kanpur.

SHARMA S.N.
(34 years)
1 M.A. Dip. in Social Work. Dip. in Foreign Trade.
2. Export Marketing.
3. Asstt. Director H. Qrs.

SHENOY B.K.
(39 years)
1.B.A. (Econ.) Dip. in Accountancy Secretarial practice, I.A. of the Instt. of Cost and Works Accountants of India.
2. Financial Mgt.
3. Asstt. Director, SISI Goa.

SINGH K.B.
(43 years)
1. M.Com. L.L.B. Training in Cost Accounting at I.C.W.A. Calcutta Indl. Management and Management Accounting and Controls at SIET Instt. Hyderabad.
2. Management Accounting and Marketing Management.
3. Assistant Director, SISI, Jaipur.

SONI R.K.
(39 Years)
1.B.A.
2. Personnel Management Cost Accounting, Production Management General Management.
3. Asstt. Director, SISI, New Delhi.

SRIVASTAVA Dr. S.B.
(41 years)
1.M.A. D. Phil.
2. Industrial Management and Training.
3. Assistant Director, SISI, Hyderabad.

AGARWAL M.P.
(41 years)
1. M.Com.
2. Export Marketing in Small Scale Industries, Economic and Industrial Research.
3. Small Industries Promotion Officer, SISI, Kanpur.

AKRUMULLAH KHAN M.
(36 years)
1. B.A. (Osmania) Post-Graduate Certificate in B.M. (Glasgow, U.K.) Part I BIM (Lon).
2. Industrial Management and Training.
3. Small Industries Promotion Officer SISI, Hyderabad.

Smt. BAVEJA S.K.
(34 years)
1. B.A. (Economic).
2. Economic Research.
3. Small Industries Promotion Officer H.Qrs.

BOSE ARINDRA PRASAD
1. B. Com (Hon. course) Post-Graduate Dip. in Business Mgt. Training in SIET.
2. Industrial Management Marketing Management, Financial Mgt.
3. Small Industries Promotion Officer SISI, Calcutta.

GANGWAR Dr. L.P.
(41 years)
1. M.Com. Ph.D. (Commerce).
3. Small Industries Promotion Officer, SISI, Indore.

**GEORGE G.**
(34 years)
1. M.A. (Economics)
2. Export Promotion Marketing, Indl. Legislation
3. Small Industries Promotion Officer SISI, Madras

**GOVINDARAJAN K.S.**
(34 years)
1. B.Sc., M.Com. AICWA (Int.).
2. Cost Accounting and Financial Management.
3. Small Industries Promotion Officer SISI, Banglore.

**GUHA A.C.**
(41 years)
1. M.A. Commerce.
2. Financial Management and Costing.
3. Small Industries Promotion Officer SISI, Gauhati.

**KHETARPAL P.L.**
(33 years)
1.I.C.W.A. (Intermediate)
2. Cost analysis and Cost control
3. Small Industries Promotion Officer SISI, Ludhiana.

**KRISHNA MENON P.**
(51 years)
1. B.A. (Hons.).
2. Export trade.
3. Small Industries Promotion Officer SISI, Trichur.

**LAKSHMANAN K.A.**
(35 years)
1. M.A. (Econ. and Stats.) Gold Medalist, Training in SIETI, Hyd.
2. Rural Economics and Co-operation, Production Plg. and Control, Materials Mgt. and Works study.
3. Small Industries Promotion Officer SISI, Madras.

**MAHENDRA KUMAR**
(35 years)
1. M. Com., LL.B. Training in Industrial Management, Export Marketing, Management of Industrial Co-operatives.
2. Export Marketing; Financial Management and Accounting.
3. Small Industries Promotion Officer (H. Qrs.)

**MAZUMDAR S.B.**
(35 years)
1. B.Com. with Adv. Accountancy and Auditing. Post-Graduate Business Mgt. Glasgow B.I.M. (Lon.)
2. Industrial Management including Financial Management.
3. Small Industries Promotion Officer SISI, Calcutta.

**MAZUMDAR NIRMAL KANT**
(30 years)
1. M.Com. LL.B.
2. Costing. Problems of Industry and Labour.
3. Small Industries Promotion Officer SISI, Patna.

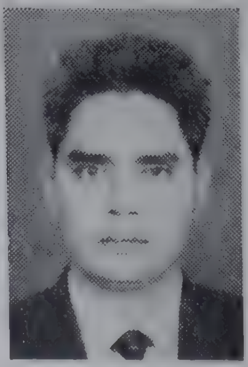
**MISRA D.D.**
(41 years)
1.M.A. Econ. with Stats.
2. Indl. Mgt. and Trg.
3. Small Industries Promotion Officer SISI, Ahmedabad.

MONGIA D.S.
(43 years)
1. M.A. (Business) U.S.A. Dip. in Journalism Courses in Accounting, Foreign Deptt. Operation, Business Finance etc. at the American Instt. of Banking. Trg. at SIETI, Hyderabad, Course in Salesmanship by Remington Rand of India Ltd.
2. Marketing Management and International Trade.
3. Small Industries Promotion Officer SISI, Jaipur.

NEJA RAM
(34 years)
1. M. Com. with Advanced Accountancy and Statistics.
3. Small Industries Promotion Officer SISI, Jaipur.

RAJARAO S.
(34 years)
1. B.Sc. AICWA
2. Financial Mgt. and Cost Accounting.
3. Small Industries Promotion Officer SISI, Bombay.

RAMAMURTY J.B.
(35 years)
1. M. Com. with Advanced Accountancy and Auditing.
2. Financial Management Accountancy.
3. Small Industries Promotion Officer SISI, Bangalore.



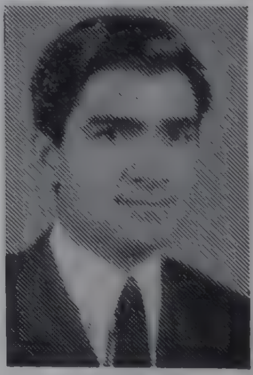
RAO P.V.
(34 years)
1. M.Com. (Allahabad) Business Administration Liverpool.
2. Production Mgt. Work study Export Promotion.
3. Small Industries Promotion Officer SISI, Cuttack.

RAVINDER SINGH K.
(27 years)
1. M. Com. (Mgt.), B. Com. (Hons.).
2. Personnel management and Indl. Relations Export marketing.
3. Small Industries Promotion Officer SISI, Srinagar.

RATNA PRASAD V.V.
(35 years)
1. M.A. (Eco.), B. Com.
2. Financial and marketing management.
3. Small Industries Promotion Officer SISI, Madras.

ROY JOGANKUR
(39 years)
1.M.A. (Eco.) with Advanced Monetary Economics.
2. Industrial Economics and Market Research with special ref. to export market.
3. Small Industries Promotion Officer SISI, Calcutta.

SARDANA V.
(37 years)
1. B.A.LL.B. Proficiency in Law Dip. Business Admn. (Liverpool), Certificate of Work study and Indl. Engg. (London)
2. Work study and production management.
3. Small Industries Promotion Officer, SISI, New Delhi.



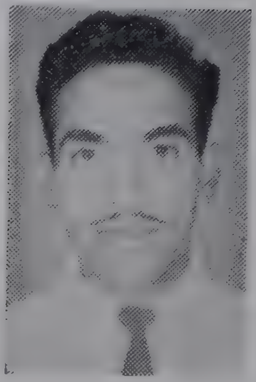
SHARMA MAHAVIR SWARUP
(35 years)
1. M.A. (Economics).
2. Export Promotion work.
3. Small Industries Promotion Officer H. Qrs.

SHEMBEKAR W.A.
(38 years)
1. M.A. (Economics), B. Com. LL.B.
2. Industrial Management
3. Small Industries Promotion Officer
SISI, Ahmedabad.

SREENIVASA RAO M.V.
(34 years)
1. M.A. (Stats.).
2. Statistical Quality Control. Sales Forecasting, Marketing Research, Industrial Management.
3. Small Industries Promotion Officer
SISI, Bombay.

SINGAL H.R.
(31 years)
1. M.A. Economics with Statistics LL.B. Intermediate Exam. of Institute of Cost and Works Accountants of India, Calcutta.
2. Costing.
3. Small Industries Promotion Officer,
H. Qrs.

SURYAPRAKASA RAO S.
(27 years)
1. Master in Business Administration
2. Marketing and Finance.
3. Small Industries Promotion Officer
SISI, Hyderabad.



SINGH L.P.
(40 years)
1. M.Com. Dip. in Business Admn. (Birmingham) Intermediate in Mgt. Studies from the B.I. of Mgt., London.
2. General and Personnel Mgt. Prodn. Mgt. Work Study and other aspects.
3. Small Industries Promotion Officer
SISI, Patna.

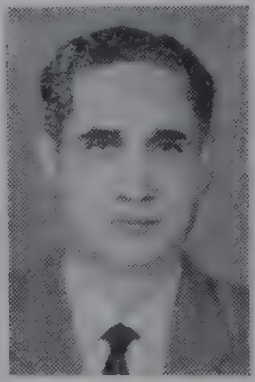
SWADESH KUMAR
(30 years)
1. B.A. (Econ.) Post-graduate Dip- in Business Admn. Post graduate Dip. in Occupational Psychology and Indl. Relations.
2. Industrial and Marketing Management. Training Methods and Skills, Cost estimation and Industrial management.
3. Small Industries Promotion Officer,
SISI, New Delhi.

VERGHESE K.C.
(39 years)
1. M.A. (R. Eco. and Cooperation) Dip. in Journalism.
2. Financial Management and Indl. Management.
3. Small Industries Promotion Officer
SISI, Trichur.

# LEATHER AND FOOTWEAR DIVISION

JADHAV S.H.
(43 years)
1. Diploma in Leather Technology Bombay, Technological Certificate (Northampton, U.K.), Passed Exam. of City & Guilds London in Tanning.
2. Leather manufacture and allied trades.
3. Director, SISI, Kanpur.

KALE B. K.
(49 years)
1. B.A., Diploma in Leather Technology, City & Guilds Certificate in Leather manufacture.
Certificate in Inplant Training for Engineers in Leather Footwear under UNIDO in Czechoslovakia.
2. Manufacture of leather and footwear, Industrial Cooperatives.
3. Director, SISI, Gauhati.



NAGRAJAN S.
(43 years)
1. B.Sc., B.Sc. Tech., Trainning in SIETI, Studied Leather industries in USA for six months under U.N. Fellowship.
2. Development of Leather industry with special reference to small scale industry.
3. Director, SISI, Calcutta.

LODH N.R.
(45 years)
1. Associate Member of British Boot and Shoe Institute, Northampton (U.K.)
2. Manufacture of all types of footwear. Manufacture of all types of shoe lasts.
3. Deputy Director Incharge, SISI, Agra.

MANAGULI S.A.
(44 years)
1. B.A. (Spl.) Economics,
Diploma in Technology in Footwear and Leather goods manufacture. Work Supervisors Course with Footwear and Leather Goods trade.
2. Footwear, leather based sports goods (such as Football, Volley ball and Basket Ball), Leather and Non-leather goods manufacture.
3. Deputy Director, SISI, Bangalore.

SAHA K.C.
(49 years)
1. B.A. Certificate of B.T.I. (Footwear and Leather), Certificate from Northampton Borough Committee (London). Certificate of Inplant Group Training for Engineers in the Leather and Shoe Industry in Czechoslovakia from UNIDO 1969.
2. Boot and Shoe Technology.
3. Deputy Director Incharge, Central Foot-wear Training Centre, Madras.

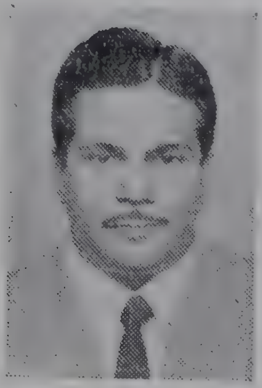
SHARMA H.R.
(54 years)
1.B.A.
2. Sports Goods.
3. Deputy Director Incharge, SISI Extension Centre Meerut.

SINGARAM S.P.
(41 years)
1. B.Sc. Degree in Chemistry, B.Sc. (Tech.) Leather Technology with Chemical Engineering and Tech. Degree. SIET Associate in Advanced Production Management.
2. Manufacture of finished leather with special reference to chrome, uppers, sole, kattai leathers, E.I. tanned kips and skins, Blue chrome etc. Techno-Economic Survey for leather and allied industries. Production management and application of Industrial Management Techniques to Small Scale Units. Setting up of Modern footwear units.
3. Deputy Director, H. Qrs.

BHANDARY M.S.
(44 years)
1. Diploma in Leather Technology
2. Processing and Finishing of different varieties of leathers Manufacture of Footwear and leather goods.
3. Assistant Director, SISI, Bangalore.

BHATTACHARJEE S.L.
(31 years)
1. B.Sc. (Tech.)
2. Leather Tanning.
3. Assistant Director Incharge, SISI Extension Centre, Kokar (Ranchi).

BOOTHALINGAM M.
(37 years)
1. B.Sc., B.Sc. (Tech.).
2. Tanning and Finishing of leather.
3. Assistant Director, SISI Extension Centre, Erode.



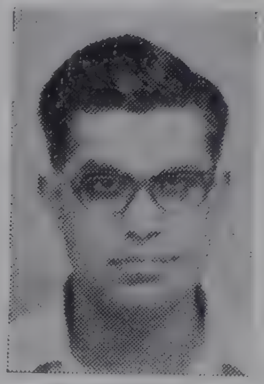
BOSE R.K.
(44 years)
1. Passed City & Guilds (London), final Exam in Boot and Shoe manufacture from College of Technology, Northampton.
2. Boot and Shoe manufacture.
3. Assistant Director, SISI, Agra.

CHANDRA BHAN
(47 years)
1. Diploma in Leather working from Technical College, Dayalbagh, Agra
2. Designing of footwear machines and designing of chappals.
3. Assistant Director, CFTC, Agra.

JANARDHANA RAO K.
(55 years)
1. S.S.L.C.
Three years course in the manufacture of footwear and leather goods at Dayalbagh Leather Goods Factory, Agra.
2. Footwear.
3. Assistant Director, SISI, Hyderabad.

KAR D.B.
(40 years)
1. Intermediate with leather-craft as special subject; Designing and study of Arts with designing (Hon.) as Special subject from Royal Drawing Society, London (Eng.); Three years full time apprenticeship in footwear manufacture.
2. Footwear manufacture with designing and development as special field.
3. Assistant Director, SISI, Agra.

MAKKER K.K.
(38 years)
1. B.Com.
Diploma in Footwear and Leather goods.
Instructors Course in Leather goods.
2. Footwear and Leather goods.
3. Assistant Director, SISI, Madras.



SANKARAN C.
(51 years)
1. Intermediate; B.B.S.I. Degree from Northampton College of Technology. Diploma in Tanning, Dyeing and Finishing of Leather.
2. Finished Leather, Footwear and Shoe Lasts.
3. Assistant Director, SISI, Madras.

SARKAR I.B.
(39 years)
1. B.Sc. (Tech.), Departmental Certificate in Tanning from Govt. of West Bengal, Certificate in Tanning, Graduate Member of British Boot and Shoe Institution, U.K., Practical Training in Bata Shoe Co. (P) Ltd., Trained in the Senior Executive Course on the Technique of International Marketing at the Indian Institute of Foreign Trade.
2. Leather Industry (Tanning, footwear and leather goods) Planning and Production. Export Promotion and Export Marketing.
3. Assistant Director, H. Qrs.

SATSANGI S.D.
(50 years)
1. Diploma in Leather, Proficiency in Footwear, Leather Goods and Workshop Practice.
2. Manufacture of Footwear (Army and Police) by hand m/c.
Leather goods articles, including Fancy articles.
Canvas and leather articles for Defence, Railways, Postal, etc.
3. Assistant Director, SISI, Madras.

SAWHNEY V.V.
(37 years)
1. B.A., Diploma in Production of Footwear and Leather Goods.
2. Mechanised process of footwear production and factory management. Production of allied leather goods on mechanised basis.
3. Assistant Director, SISI, New Delhi.

SAXENA P.B.L.
(51 years)
1. Diploma in Leather, Proficiency in Footwear leather goods and workshop Practice. Diploma in Gentlemen Garments, Cutting and Designing, Teachers' Course Exam. from Central Trg. Institute, Min. of Labour, Bilaspur (in Leather), IMT Courses from Madras and Hyderabad, Workstudy course from N.P.C., New Delhi.
2. Manufacture of all types of leather, canvas and textile articles. Manufacture of footwear by hand as well as machines. Leather and textile garments designing, cutting and manufacture. Cost reduction of production by W/S method.
3. Assistant Director, SISI, Madras.

SENGUPTA S.N.
(45 years)
1. F.S.C., Diploma in Tanning.
2. Chrome Upper and Indl. leather, Leather finishing and footwear manufacture.
3. Assistant Director, SISI, Calcutta.

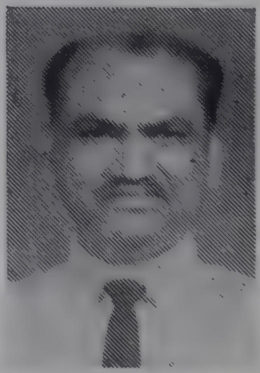
SRINIVASAN R.
(42 years)
1.B.Sc. Chemistry, B.Sc. (Tech.) Shortterm Training in Footwear at C.T.E.C., Madras.
2. Leather Technology,
Tanning and Finishing of leather, footwear and leather goods.
3. Assistant Director, SISI, Madras.

SRIVASTAVA B.K.
(46 years)
1. Passed the Final Exam. from Government Leather Working School, Kanpur., I.M.T. Course at SISI.
2. Footwear Technology, Footwear Designing and pattern cutting, footwear modelling.
3. Assistant Director, SISI, Madras.

SUKHIA P.N.
(54 years)
1. Three Years Certificate Course in Footwear manufacture from Government of Bombay.
2. Manufacture of all types of footwear and shoe lasts of prototype.
3. Assistant Director, SISI, Agra.

UDAYAVERMA M.K.
(41 years)
1.B.Sc.
B.Sc. (Tech), Degree in Leather Technology.
2. Tanning and footwear Mfr.
3. Assistant Director, SISI, Trichur.

BAGDEY M.B.
(43 years)
1. Matric, Diploma in Leather Technology (Tanning), City & Guilds London.
2. Heavy leathers, Indl. leathers, Light leathers, E.I. tanning of skins, pickled and blue chrome skins for export and gloving leathers.
3. Small Industries Promotion Officer, SISI, Bombay.



**BHARULE TRIMBAK JAGANATHA**
(34 years)
1. Intermediate Arts, Artisan Course in Leather Manufacture (Tanning), Diploma Course in Advance Leather Manufacture (Tanning)
2. Manufacture of light leathers, heavy leathers and industrial leathers.
3. Small Industries Promotion Officer SISI, Bombay.

**BISWAS MANOJ KUMAR**
(29 years)
1. Passed Advance Footwear and Leather Goods Manufacture Course Passed Advanced Footwear Technology from CFTC, Madras.
2. Footwear and leather goods manufacturing
3. Small Industries Promotion Officer SISI, Madras.

**DEV P.A.**
(34 years)
1. Diploma in Leather Technology, City & Guilds London—in Leather Tech. British Institute of Management, London, Exam. in Foremanship and Supervision
2. Specialised in the manufacture of leather goods and footwear, leather tanning.
3. Small Industries Promotion Officer SISI Indore.

**GAWALI B.S.**
(38 years)
1. Diploma in Leather manufacturing. One year Post Diploma studentship.
2. Manufacture of picking bands. Finishing of Leathers.
3. Small Industries Promotion Officer SISI Extn. Centre Meerut.

**JACOB E.P.**
(40 years)
1. B.Sc. (Chemistry), B.Sc. Tech (Leather Technology) Certificate in Business Management.
2. Processing and finishing of leather Manufacture of footwear, leather goods and allied products.
3. Small Industries Promotion Officer SISI, Bangalore.

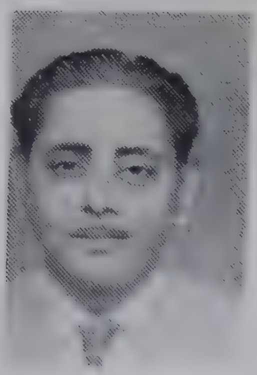
**JAGIRDAR BABURAI**
(52 years)
1. Certificate of proficiency in leather working. Two years training in Artistic Leather Works.
2. Footwear
3. Small Industries Promotion Officer SISI, Hyderabad.

**KESAVAN C.P.**
(37 years)
1. Diploma in Leather Technology, Certificate from Central Footwear Training Centre (Foreman Course)
2. Tanning, Footwear, Leather and allied goods manufacturing, Industrial Management.
3. Small Industries Promotion Officer SISI, Madras.

**KHANNA J.P.**
(36 years)
1. Diploma in Leather Footwear Manufacture, Certificate in Leather Goods Manufacture, Diploma in Leather Tech.
2. Tanning, Footwear and Leather Goods.
3. Small Industries Promotion Officer SISI, New Delhi.

**[KUREEL GYAN MITRA**
(40 years)
1. B.A., Diploma in Footwear Tech., Certificate in Foot Comfort Service Certificate in Indl. Management.
2. Manufacture and inspection of footwear.
3. Small Industries Promotion Officer SISI, Kanpur.

**NAIDU K.S.**
(41 years)
1. Diploma in Leather Technology
2. Tanning and Finishing of leathers
3. Small Industries Promotion Officer, SISI Madras.



**PANDIAN R.**
(32 years)
1. Licenciate in Leather Technology (Diploma)
2. Tanning and Finishing
3. Small Industries Promotion Officer, SISI, Madras.

**RAJAGOPALAN T.**
(43 years)
1. Inter Science and Arts, Diploma in Leather Technology.
2. Leather tanning, manufacture of leather goods and footwear
3. Small Industries Promotion Officer, SISI, Trichur.

**RAO M.P.**
(44 years)
1. Diploma in Leather Tech.
2. Leather tanning and finishing, Steamed bone and meat meal
3. Small Industries Promotion Officer SISI, Hyderabad.

**SARKAR A.R.**
(43 years)
1. Matric, Diploma in Leather Technology, Practical Training from M/s Bata Shoe Co. Ltd., Batanagar, West Bengal.
2. Chrome retanned upper leather
3. Small Industries Promotion Officer SISI, Calcutta.

**SHARMA S.**
(30 years)
1. Three years Diploma in Leather Chemistry and Technology
2. Leather Tanning, Leather goods manufacture, Fur tanning—sports goods.
3. Small Industries Promotion Officer, SISI Srinagar.

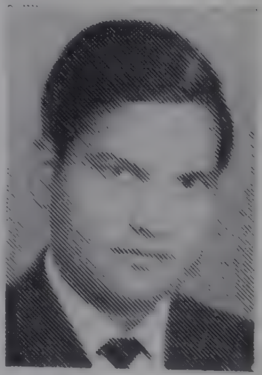
**SHINDE UPENDRA N.**
(32 years)
1. Diploma in Leather goods and Footwear manufacture (Bombay) Manager Course, Central Footwear Trg Centre, Madras.
2. Leather footwear of all types
3. Small Industries Promotion Officer, Footwear Extn. Centre, Jodhpur.

**SUSHIL KUMAR**
(39 years)
1. Diploma in Leather Chemistry and Tech.
2. Leather Tanning
3. Small Industries Promotion Officer, SISI Jaipur.

**WILLIAMS THEODORE HECTOR**
(50 years)
1. Intermediate (Sc.) Ordnance Training in Boot and Shoe Making, Post Graduate (Social Science) Bombay Advance Training Boot and Shoe Manufacture, C.F.T.C., Madras.
2. Footwear production mechanised and semi-mechanised units, Footwear Quality Control and Ispection.
3. Small Industries Promotion Officer, Shoe Last Precision Factory, Agra.

**BALASUGAVANAM S.**
(29 years)
1. Diploma in Leather Goods Manufacture
2. Leather Tanning and Finishing and Leather goods manufacture
3. Investigator, Extn. Centre for Leather Finishing, Erode.

**CHHONKER RAVINDRA KUMAR**
(26 years)
1. Intermediate (with leather as special subject), Two Years Course of footwear Technology and leather goods manufacturing.
Course of Advance Footwear Tech.
2. Footwear Technology
3. Investigator SISI, Agra.



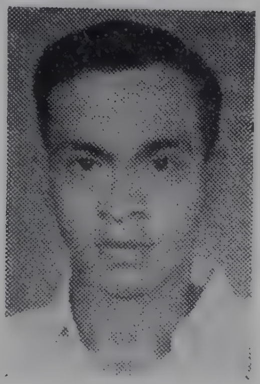
MAHAY B.C.
(24 years)
1. B.A. Part I
State Diploma Exam. in Leather Tech.
2. Tanning, Manufacture of Indl. Leather and Wet blue chrome for export.
3. Investigator, SISI Ext. Centre, Rewari.

OM PRAKASH
(24 years)
1. B.A. (Prev.)
Diploma in Leather Technology
2. Manufacture of sole leather
Leather varnish
3. Investigator SISI, Agra.

NARSINGH RAO M.A.
(36 years)
1. Passed Footwear Technology Course from CFTC, Madras
2. Footwear and allied products
3. Investigator SISI, Patna.

PURI V.R.
(30 years)
1. Matric
Three years diploma in Leather Tech. and Chemical.
2. Tanning and Retanning of all types of light leathers and footwear industries.
3. Investigator SISI Jammu.

NATARAJAN S.
(29 years)
1. Diploma in Leather Technology
2. Tanning
3. Investigator, SISI Madras.



SEN PURNENDU BIKAS
(47 years)
1. B.A.
Diploma in Leather Technology.
2. Leather Tanning.
3. Investigator, SISI Ahmedabad.

VARADARAJALU P.V.
(45 years)
1. Passed Artisan Course in Footwear, Leather goods and tanning. Advance Training in Modern Methods of Footwear Making at Footwear Production Centre, Madras.
3. Investigator Foot-wear Service Centre, Trichur.

# MECHANICAL SECTION

MURTHY G.N.
(47 years)
1. B.E. (Mech.); A.M.I.E.
2. General Engineering Workshop Practice and Production Engineering.
3. Director, SISI, Hyderabad.

POORNAM R.
(43 years)
1. B.E. Mech., M. Tech. (Production Technology).
2. Production technology and production management.
3. Director, SISI, Trichur.

RAMACHANDRA RAO C.M.
(54 years)
1. B.E. (Mech.).
2. Mechanical Engineering and Production Technology.
3. Director, SISI, Bangalore.

SEN A.R.
(45 years)
1. Graduate-Mechanical Engineering, Post graduate-Engineering Administration, Member-Institute of Production Engineers, London.
2. Industrial Management and Industrial Engineering (Small Industries); Industrial Estates for small industries and Extension Workshops.
3. Director, H. Qrs.

UPASANI L.R.
(54 years)
1. B.Sc. (Engineering), A.M.I.E. (India).
2. Tools and Tooling, Machine tools, Press work, Metrology, Industrial Consultancy and Management.
3. Director, SISI, Bombay.

AKRAM MOHD.
1. Intermediate, Five years course from Rly. Technical School Jamalpur, Section A of Institution of Mechanical Engineers (London), Section I, II and III of Institution of Production Engineers (London), 3 months work study course, Six months course in production management in U.S.A.
2. Design and Production of Toolings
3. Dy. Director, SISI, New Delhi.

BANDOPADHYAY S.
(43 years)
1. B.Sc., B.E. (Tech.), Certificate of Trg. in Machine tool Production and Vocational Education, Certificate in Japanese Language from Tokyo, Dipl. in Indl. Mgt. (DELFT), Studied Packaging Industry in Japan as a Member of the Indian Delegation in 1970.
2. Production and Planning of m/c. tool and Indl. machine, Plg. and Orgn. of Installation of Plant and machinery, Development of Agro-based Industries, Agricultural Implements and machinery Packaging machinery. etc.
3. Dy. Director, H. Qrs.

BANERJEE K.K.
(44 years)
1. Diploma in Mechanical and Electrical Engg.
2. Machine shop and tool room.
3. Dy. Director, SISI, Calcutta.

CHAUHAN D.S.
(39 years)
1. Bachelor of Engineering, A.M.I.E.
2. Automobile Engineering, Wood working (Mechanised), Machine Drawing and Designs, Erection of Plants and Machinery (Both heavy and light), Tool Room Practice.
3. Dy. Director, SISI, Jaipur.

**DEVA R.N.**
(43 years)
1. Diploma (Mech. and Elect. Engg.). Advance Electrical Engg. Practice of City and Guilds London, A.M.I.E., A.M.I.I.E., Indl. Management Course SIETI, Hyderabad, Work-study course-NITIE, BOMBAY.
2. Design and making of press-tools and Tool Room Practice, Small Business project making, Consultancy in Indl. Engineering.
3. Dy. Director, S.I.S.I., Trichur.

**GOPIKRISHNA B. JAKHETIA**
1. Bachelor of Engineering (Mech. and Elect.), Senior Member American Institute of Industrial Engineers, New York (U.S.A.), Qualified M.T.M. Practitioner from M.T.M. Association, U.S.A., Passed the Qualifying Examinations in Industrial Engineering from U.S.A., Trained in the data processing system at I.B.M. Washington D.C., U.S.A.
2. Operations Research-Linear Programming, Methods Time Measurements (M.T.M.), Network Planning C.P.M. and PERT Production Planning and Control, Material Handling.
3. Dy. Director Incharge Development (Engineering), H. Qrs., Currently Consultant to U.N. on Small Industries accredited to Jordan.

**KHARE K.C.**
(53 years)
1. Inter, Apprentice Civil Aviation, Technical Training Scheme, trade test for the metal worker of the I.A.F.
2. Blacksmithy.
3. Dy. Director Incharge, SISI Ext. Centre, Ambala.

**LOBO A.G.**
(53 years)
1.A.M.I.E.T., London, Final City and Guilds of London Instt., Diploma in Mech. and Elect. Engineering.
2. Production Engineering., Management of Engg., Sub-contract Exchange.
3. Dy. Director, SISI, Bombay.

**MUKERJEE S.C.**
(45 years)
1. B.Sc. Diploma in Mech. & Elect. Engineering.
2. Tool and Die making.
3. Dy. Director, SISI, Patna.

**NATH K. NARENDRA**
(37 years)
1. B.Sc., B.Sc. (Mech. Engg.)
2. Sheet-Metal work
3. Dy. Director, SISI, Cuttack.

**GUNDU RAO B.V.**
(38 years)
1.B.E. Mech., A.M.I.E.
2. Mech. Engineering.
3. Dy. Director Incharge, SISI, Hubli.

**RAO N.K.A.**
(31 years)
1. B.Sc. B.E., (Mech)., A.M.I.E.
2. Mechanical Engineering,
3. Dy. Director, SISI, Indore.

**SATHYANARAYANAN K.V.**
(40 years)
1. SSLC, Diploma in Mech. Engg., Diploma in Aeronautical Trade apprenticeship of 3 years.
2. Instrument Mechanisms and Horological Instruments, Tool Room and tool fabrications, tool designs, Indl. engineering, time studies, rate fixing and job standardisation.
3. Dy. Director, SISI, New Delhi.

SHETTY K.R.
(39 years)
1. Five year course of training in Naval Engineering.
2. Light Engineering Design and Development of Machine tools and Metal cutting tools
3. Dy. Director, SISI, Bangalore.

SHINDE D.V.
(52 years)
1. M.I.B.E. (England), Apprentice course of workshops in H.Ms. Mint Bombay, 3 years technical course in Foremanship in U.K., Small Business Management Trainers' and Consultants' Training Course, A.P.O. Japan, Trg. in Industries Engg. & Indl. Financing.
2. Profiling, thread grinding, different types of automatic machines and Heat-treatment of steels
3. Dy. Director, H. Qrs.

SHIVDASANI J.N.
(46 years)
1. B.Sc. (Phy. and Maths.), B.Sc. (Mech. Engineering), Glasgow, One year apprenticeship in General Engg. Workshop in India and 3 years with Power Generation Equipment Manufacturers in U.K.
3. Maintenance, Erection & Installation of Engg. Equipment., Intermediate Technology Classification.
3. Dy. Director, SISI, Ahmedabad.

SOM HIRENDRA MOHAN
(39 years)
1. B.Sc., Passed section A. & B. of the Institute of Engg. (India) in Mech. Engineering., Diploma in Horology, Govt. of France, Passed Indian Ordnance Factory Apprenticeship in General and Mech. Engg.
2. Tool Engineering and Horology.
3. Dy. Director, SISI, Gauhati.

VERMA SIRI RAM
(43 years)
1. Senior Course in Mech. & Elect. Engineering
2. Designing, mfg. and standardisation of electrical machinery, machine tools, jigs, fixtures and tools, Diesel engines and pumps.
3. Dy. Director, SISI, Madras.

ANUJAN RAJA K.C.
(42 years)
1. Dipl. in Mech. Engineering, Associate of the SIETI, Hyderabad
2. Tool Room and Forging Shop
3. Asstt. Director, SISI, Trichur.

CHATERJI G.D.
(52 years)
1. A.M.I.S.E., A.M.A.S.A.E., U.S.A. Training course under the Director of Civil Aviation of India, Associate of SIETI, Hyderabad.
2. Workshop Management and Trg., Manufacturing of Agricultural Implements and Machinery
3. Asstt. Director Incharge, SISI Extension Centre, Gwalior.

CHOUDHRY S.N.
(56 years)
1. Diploma in Mech. and Elect. Engineering, Advance tech., training in field of forging shop under the auspices of the Colombo Plan.
2. Die design, Process of manufacturing, clamping dies, manufacture of surgical instruments, carpentry tools and Cutlery.
3. Asstt. Director, SISI, Patna.

CHUGH R.P.
(38 years)
1. B.Sc. (Engg. Mech.), Specialist course in Air-conditioning and Refrigeration Engineering.
2. Air conditioning and Refrigeration Industry, Cold Storage, Agricultural implements and Farm Machinery.
3. Asstt. Director, SISI, New Delhi.

DE H.N.
(35 years)
1. I.Sc. Dipl. in Mech. Engg., Industrial Management course and Production Management course from SIETI, Hyderabad.
2. Machine shop and Tool Room Practice.
3. Asstt. Director, SISI, Patna.

DEY B.C.
(40 years)
1. Dipl. in Machinist. Associate of SIETI, Hyderabad.
2. Consultancy Service for development of small scale industries.
3. Asstt. Director, SISI, Patna.

DHANUNJAI J.P.
(47 years)
1. Matric, 3 years Apprenticeship in Railway Workshop.
2. Mechanical Press Tools, Jigs and Fixtures.
3. Asstt. Director, P.S.L. Factory, Agra.

DHARMA RAJU K.S.
(38 years)
1. I.Sc., Railway Technical Course of 3 yrs. in Mech. Engineering.
2. Quality Control and Production Technology.
3. Asstt. Director Incharge, SISI Ext. Centre, Sanathnagar, Hyderabad.

GANGULY R.S.
(40 years)
1. Matric, Five Years Industrial Diploma Course with certificate as machinist.
2. Production and Planning in Machine Shop, Erection and maintenance of M/cs. and Plants, Supervision and manufacture of cycle components
3. Asstt. Director Incharge, SISI Ext. Centre, Dhanbad.

GARG S.C.
(28 years)
1. B.Sc. Engg. (Mechanical).
2. Tool Room Scientific Instruments, Manufacturing Processes and Techniques.
3. Asstt. Director, H. Qrs.

DASTIDAR A. GHOSH
(43 years)
1. I.Sc., Diploma in Elect. and Mech. Engg., Diploma in Indl. Admn.
2. Tool Engineering.
3. Asstt. Director, SISI, Ahmedabad.

GUPTA R.S.
(36 years)
1. Fellow member of SIETI, Hyderabad, Associate member of Instt. of Engineers (India).
2. Manufacture of Jigs and Tools, Rate fixing and Production planning.
3. Asstt. Director, SISI, Bombay.

HARI CHAND
(55 years)
1. Matric, 3 years' apprenticeship course in Dies and Tools,
2. Dies and Tools.
3. Asstt. Director. SISI, New Delhi.

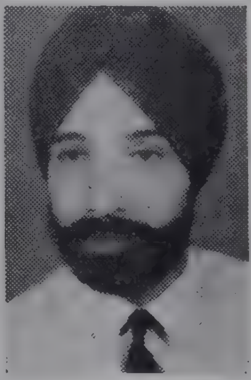
JHA D.C.
(33 years)
1.B.E. (Mech).
2. Air conditioning and Refrigeration.
3. Asstt. Director, SISI, Hyderabad.

KAUL J.L.
(39 years)
1. Matric, Diploma in Mechanical Draftsmanship.
2. Tool Room Engineering.
3. Asstt. Director Incharge, SISI Ext. Centre, Ambala.

KINRA P.C.
(54 years)
1. M.S.L.C., Five years Maclagan Engg. College Mech. Engineer's Course.
2. Machine tool development.
3. Asstt. Director, SISI, Jammu.

KUNHAPPU P.
(50 years)
1. SSLC Examination, 5 years course in Mech. Engineering, Passed Instructor Training Course (Mech. Draughtsmanship), Indl. Management Course at SIETI, Hyderabad.
2. Manufacture-reconditioning, Erection and maintenance of machines and machine tools, tool room practices.
3. Asstt. Director Incharge, SISI Ext. Centre, Madurai.

LAMBA K.S.
(40 years)
1. Inter Science, 3 years Engineering Apprenticeship Course from TELCO, Jamshedpur.
2. Forging and Smithy.
3. Asstt. Director, SISI, Kanpur.



MITRA A.K.
(43 years)
1. I.Sc., Passed Diploma in Mech. and Electrical Engineering.
2. Mechanical Engineering specially in Tool room work.
3. Asstt., Director Incharge, SISI Ext. Centre (Tools and Dies), Kalyani.

NAIR P.G.
(51 years)
1. 5 years Course in Cabinet Making, Course in Upholstery work and Toy making.
2. Wood Working.
3. Asstt. Director Incharge, SISI Ext. Centre, Calicut.

NANDI R.N.
(37 years)
1. Machineshop Engg. Course. M.T.P.F. Ambernath, Inter Exam., Machineshop Engg. from City and Guilds (London).
2. Machining process of machine tools components in heavy and light engineering.
3. Asstt. Director Incharge, SISI Ext. Centre, Cuttack.

NIROKHEKAR S.H.
(49 years)
1. Diploma in Mech. and Elect. Engg.
2. Mechanical Engg.
3. Asstt. Director Incharge, SISI Ext. Centre,. Belgaum.

PHADKE M.S.
(38 years)
1. Dipl. in Mech. and Elect. Engg.
2. Designs and development of small machines & tools, modification of attachments, dies, jigs and fixtures etc.
3. Asstt. Director Incharge, SISI Ext. Centre, Nadiad.

RAMAN P.R.S.
(36 years)
1.L.M.E.
2. Design and manufacture of Dies, jigs, fixtures and press tools and prototype of machines.
3. Asstt. Director, SISI Ext. Centre, Alleppey.

RAO C.P.
(41 years)
1. Diploma in Mech. Engg., Trained in Tool Design in Denmark.
2. Tool and Die design. Design and fabrication of special purpose machines and machine tools.
3. Asstt. Director, SISI, Jaipur.

RAO NARSINGHA L.
(42 years)
1. SSLC Diploma in Mech. Engineering.
2. Manufacture of machine tools, components and accessories.
3. Asstt. Director Incharge, SISI Ext. Centre, Vijayawada.

ROY BIMALANADHA.
(43 years)
1. Intermediate (Science), Certificate course in Mech. and Elect. Engg.
2. Machine shop practice and allied mfg. processes, Member—Indian Instt. of Metals, Machine Tools.
3. Asstt. Director Incharge, Ext. Centre, Habra, (W. Bengal).

ROY S.N.
(41 years)
1. Dip. in Engg. (Mech. and Elect.).
2. Machine tools.
3. Asstt. Director Incharge, SISI Ext. Centre, Nabadwip.

SAHA G.C.
(44 years)
1.B.M.E., A.M.A.E. India Industrial Management Training course from SIETI, Hyderabad.
2. Mechanised Wood Industry.
3. Asstt. Director Incharge,
SISI Ext. Centre, Gauhati.

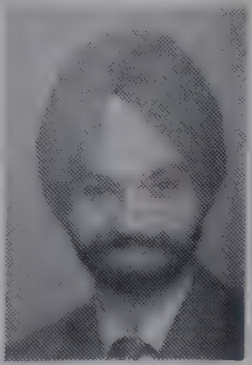
SEHGAL T.R.
(29 years)
1. National Certificate (Mech. Engg.), National Diploma in Mech. Engg.
2. Structural Fabrication and Tool Room.
3. Asstt. Director, SISI, Indore.

SHARMA G.D.
(39 years)
1. Graduate in Mech. Engg. Postgraduate study in Business Management. Specialised training in Japan on "Prototype manufacture of Electrical measuring Instruments and Production Engg." Graduate member of Institution of Production Engineers (London).
2. Prototype of Indl. Machines, Prototype and manufacture of Electrical Measuring Instruments, Techno-economic Surveys and Indl. Consultancy Service,
3. Asstt. Director, SISI, Jaipur.

SHIVAPARASAD C.R.
(31 years)
1. B.E. (Mech.).
2. Mech. Engg., Refrigeration Engineering and Agro Industries.
3. Asstt. Director, SISI, Bangalore.

SIKKA K.K.
(38 years)
1. B.A. with Physics and Maths., combined four years diploma in Mech. and Elect. Engg. Technology.
2. Machine shop job work, Plastic moulding dies, Forming and blanking dies for sheet metal, jigs and fixtures.
3. Asstt. Director, SISI, Srinagar.

SINGH ARDUMAN
(36 years)
1. Diploma in Mech. and Elect. Engg. Machine Shop Engg. Course at A.T.S. Ambernath, Jigs and Tool Designer course Indl. Management course at SIETI, Hyderabad.
2. Tool Room Practice, Light Engg. Product, Design of Jigs and Fixtures.
3. Asstt. Director Incharge, SISI Ext. Centre, Jodhpur.



SINHA M.P.
(42 years)
1. Associate member of Instt. of Engg. Technology (BIET).
2. Fitting, Erecting, Testing, Drawing, design and machine construction, production tools, jigs, fixture, forging dies, die casting and moulds.
3. Asstt. Director, Incharge, SISI Ext. Centre, Aligarh.

SREENIVASAN T.
(39 years)
1. Diploma in Mech. Engg., Certificate Course in Wood Seasoning, Industrial Management course from SIETI, Hyderabad
2. Mehcanical Engineering, Wood seasoning, Mechanised Carpentry and Timber Sawing
3. Asstt. Director Incharge, SISI Central Workshop, Ollur.

SRIKANTIAH N.K.
(41 years)
1. LME, Dip. of trade apprenticeship (3 years course) from H.A.L.
2. Tool Room Practice
3. Asstt. Director, SISI, Hyderabad.

SRINIVASAN T.D.
(36 years)
1. Intermediate in Science, Diploma in Mech. Engineering
2. Automobiles Engg.
3. Asstt. Director, SISI, Jaipur.

SRIVASTAVA KRISHNA CHANDRA
(47 years)
1. 4 Yrs. Dipl. from Technical College, Dayal Bagh, Agra, Specialising in Mech. Engg. A.M.M.E.A. (India).
2. Tool room practice, Heat treatment of Ferrous and Non-ferrous Metals.
3. Asstt. Director Incharge, SISI, Allahabad.

SUBRAMANIAN T.K.
(42 years)
1. B.Sc., Foreman diploma in Cabinet making and joinery, Advanced production management course from SIETI, Hyderabad.
2. Cabinet making and Joinery-pertaining to wood work, Wood seasoning, wood preservation, Wood working machinery
3. Asstt. Director SISI, Bangalore.

SURAPPA K.S.
(42 years)
1. Diploma in Mech. Engg., Diploma in Apprenticeship, Specialising in Tool room
2. Tool Engineering
3. Asstt. Director, SISI, Bangalore.

SYAL J.K.
(46 years)
1. Passed apprenticeship training Exam. Diploma in Machineshop Engineering, work study course A.M.I. Indl. Engg. (India), passed two subjects of Section 'A' of A.M.I.E. Exam.-Applied mechanics and theory of structure and strength of materials.
2. Tool room work, Designing and Fabrication of Production tools, manufacture, assembly testing and standardisation of machine tools and other allied products, Industrial Engg.
3. Asstt. Director, SISI, New Delhi.

THAKUR T.R.
(45 years)
1. Diploma in Mech. Engg., Certificate in Mech. Engg. from C & G Institute—London., Training in Industrial Management.
2. General Engg. workshop with particular interest in assembly and Die designing.,
3. Asstt. Director, SISI Cuttack.

VENKATARAMAN N.V.
(36 years)
1. Diploma in Mech. Engg. A.M.I.A.E. (India).
2. General Mech. Engg. Machineshop Practice Inspection
3. Asstt. Director, SISI, Goa.

**VENKATARAMAN T.S.**
(52 years)
1. Intermediate, Aero mechanics training under the D.G.C.A., Metal work course under the Royal Indian Air Force
2. Metal Working and General Engg. (Mech)
3. Asstt. Director Incharge, SISI Ext. Centre, Shoranur.

**APPUKUTTY P.**
(51 years)
1. Passed 5 years course in cabinet making, Passed the lower grade exam. in drawing
2. Wood working
3. Small Industries Promotion Officer, SISI, Calicut.

**VENKATASUBBIAH B.V.**
(44 years)
1. L.M.E. (Automobile Engg.), A.M.-I.A.E. (India)
2. Specialised in Automobile Engineering and Machine Shop Practice
3. Asstt. Director, SISI, Bangalore.

**BANERJEE ASHIM KUMAR**
(32 years)
1. Diploma in Mech/Elect. Engg. C & G Exam. in Machine Shop Engg. Completed full term apprenticeship training in Chittaranjan Loco Works
2. Manufacture of cutting tools, jigs, and fixtures etc.
3. Small Industries Promotion Officer, SISI, Kanpur.

**VERMA M.K.**
(28 years)
1. B.Sc. Engg. (Mech), A.M.I.A.E. (India), Madras.
2. Mechanical Engineering Toolings.
3. Asstt. Director, SISI, Ludhiana.

**BHARTIYA C.P.**
(32 years)
1. Diploma in Mech. D/Man. Indl. Management. trg. course. from SIETI, Hyderabad.
3. Small Industries Promotion Officer SISI Ext. Centre, Udaipur.

**AHMED RAFIQUE B.**
(30 years)
1. Technological Diploma in Mechanical Engineering.
2. Tool room-tool planning and tool progress, jigs and fixtures and mfg. inspection
3. Small Industries Promotion Officer, SISI, Hyderabad.

**BHATNAGAR S.M.**
(34 years)
1. Diploma in Mech. Engg.
2. Tool room.
3. Small Industries Promotion Officer, SISI Ext. Centre, Kota.

**ANANTHA KRISHNA P.**
(37 years)
1. Diploma in Mech. Engg.
2. General Mech. Engg.
3. Small Industries Promotion Officer, SISI, Hyderabad.

**BHAT K.V.**
(36 years)
1. Diploma in Automobile Engineering
2. Automobile component manufacture, sheet metal industry and General Engg.
3. Small Industries Promotion Officer, SISI, Bangalore.

**BHATTACHARJEE RAMENDRA NATH**
(31 years)
1. L.M.E.
2. Mech. Engg. Production Planning and Quality Control.
3. Small Industries Promotion Officer, SISI, Calcutta.

**BOSE S.C.**
(35 years)
1. I.Sc., Diploma in Mech. Engg.
2. All types of work relating to Machineshop.
3. Small Industries Promotion Officer, SISI Ext Centre, Bankura.

**CHAKRABARTY INDU BHUSAN**
(35 years)
1. Three years diploma in Metal Works.
2. Machine-shop Practice.
3. Small Industries Promotion Officer, SISI, Gauhati.

**CHAKRA JAI CHAND**
(38 years)
1. Diploma in Mech. Engg.
2. Machine-shop and tool room practice, manufacture of dies and toolings.
3. Small Industries Promotion Officer, SISI Ext. Centre, Ambala.

**CHAKRABARTY J.N.**
(34 years)
1. Trade certificate in G.M. and fitting trade. Supervisory trg. in Tool room section.
2. Tool room.
3. Small Industries Promotion Officer, SISI, Bombay.

**CHOPRA R.L.**
(28 years)
1. B.S.C., B.E. (Mech.), Passed three months Industrial Management Course from SIET Instt., Hyderabad.
2. Mech. Engg.
3. Small Industries Promotion Officer, H. Qrs.

**CHATTERJEE A.C.**
(40 years)
1. Apprenticeship course of 5 years in Rlys., 6 months Instructors course, 3 months Mfr. trg. course.
2. Machine-shop Practice, Jigs and Fixtures.
3. Small Industries Promotion Officer, SISI, Kanpur.

**CHOUDHRY J. N.**
(51 years)
1. Two years' Artisans Training Course in Pattern making and Fitting, four years course in Carpentry.
2. Wood Working.
3. Small Industries Promotion Officer, SISI, Cuttack.

**CHOUDHURY R.M.**
( 33 years )
1. Diploma in D/Manship (Mech.).
2. Design Office Tool Room and Machine Shop
3. Small Industries Promotion Officer, SISI Extn. Centre, Muzaffarpur (Bihar).

**DEVENDRA MOHAN**
(30 years)
1. 3 Years Diploma in Metal Work from Patna Polytechnic.
3. Mech. Engg.
3. Small Industries Promotion Officer, SISI, Gauhati.

**DEVENDRA SINGH**
(30 years)
1. Sections A & B of A.M.I.E., Advanced Diploma in Automobile Engg., Diploma in Mech. Engg. Course of Indl. Management.
2. Automobile Engg., wire drawing.
3. Small Industries Promotion Officer Incharge, Workshop Extn. Centre, Gwalior.

**DUGGAL J.N.**
(47 years)
1. Diploma in Die Sinking and sheet metal work. Supervisor Instructor Course in Machinist trade, Heat-treatment Trg. Indl. Management Course from SIETI, Hyderabad.
2. Dies Machine Tools, Jigs and Fixtures.
3. Small Industries Promotion Officer, SISI, Indore.

**GAONKAR P.G.**
(38 years)
1. Diploma in Forging Certificate Course for Instructor in Forging. Advanced Certificate Course in Heat-treatment.
2. Forging, Heat-treatment and machine shop.
3. Small Industries Promotion Officer, Margoa, Goa.

**GIRDHAR R.K.**
(34 years)
1. Diploma in Surgical Instruments Mfg. Tech. and Allied Trades. 12 weeks training course in Indl. Management at SIETI, Hyderabad.
2. General Engg.
3. Small Industries Promotion Officer, SISI Ext. Centre, Jagadhari (Haryana).

**GOEL R.S.**
(34 years)
1. National Certificate in Mech. Engg. Sections A and B of A.M.I.E. (India)
2. Machine tools, jigs, fixtures, dies, for pressure die casting and press work.
3. Small Industries Promotion Officer, SISI Extn. Centre, Meerut.

**GUJJAIAH K.**
(41 years)
1. Diploma in Mech. Engineering (Gen.).
2. Precision Grinding.
3. Small Industries Promotion Officer SISI, Bangalore.

**GUPTA V. BABURAO**
(32 years)
1. D.M.E. Sec. A of A.M.I.E. (India).
2. Jigs and fixtures and press tools.
3. Small Industries Promotion Officer, SISI, Hyderabad.

**GURUSWAMY**
(28 years)
1. B.Sc. (Engg. Mech.).
2. Machine Shop, Machine Design.
3. Small Industries Promotion Officer SISI, New Delhi.

**HARBANS SINGH**
(29 years)
1. L.M.E. Two years Apprenticeship (M.E. Section) from Indian Standard Wagon Co. Ltd., Burnpur.
2. Erection, maintenance and reconditioning of machinery, Machine-shop work.
3. Small Industries Promotion Officer, SISI, Ahmedabad.

**JAJOO P.G.**
(33 years)
1. Intermediate (Sc.), Diploma in Mech. Engg. (3 years).
3. Small Industries Promotion Officer, SISI, Agra.

JOHARI R.S.
(33 years)
1. Intermediate Sc., Diploma in Mech. Engg, Indl. Management Course.
2. Mech. Engg.
3. Small Industries Promotion Officer Incharge, SISI Extn. Centre, Jabalpur.

KAPOOR V.P.
(38 Years)
1. Matric, Diploma in Mech. D'manship.
2. Press Tools.
3. Small Industries Promotion Officer, SISI Extn. Centre, Meerut.

KANUNGO MAHESH SHAKTI
(36 years)
1. Four Years Diploma in Mech. Engg.
2. Heat-treatment, Tool Room Practice.
3. Small Industries Promotion Officer, SISI, Indore.

KHAN M.A.
(33 years)
1. Intermediate (I.Sc) Passed Diploma Exam. in Mech. Engg.
2. Machine Shop, tool and die making.
3. Small Industries Promotion Officer, SISI Extn. Centre, Hyderabad.

KATARIA K.S.
(32 years)
1. Diploma in Surgical Instruments manufacture, Tech. and Allied Trades.
2. Operations and maintenance of machine tools.
3. Small Industries Promotion Officer, Extn. Centre, Balsahyog, New Delhi.

KUMAR S.V.
(37 years)
1. Diploma in Mech. Engg..
2. General Mech Engg.
3. Small Industries Promotion Officer, SISI, Hyderabad.

LAKHYANI N.S.
(34 years)
1. Intermediate, Diploma in Mech. Engg.
2. Machine Shop, Teaching designing subjects.
3. Small Industries Promotion Officer, SISI, Srinagar.

MATHUR G.P.
(36 years)
1. I.Sc. Diploma in Elect. and Mech. Engg. Training in Indl. Management, Production Management, Systematic Plant Maintenance.
2. Dies, tools, plastic moulds and production management.
3. Small Industries Promotion Officer, SISI, Kanpur.

MEHTA B.D.
(30 years)
1. Diploma in Craftsmanship, Training in SIETI, Hyderabad.
2. Tool designing and tool fabrication, Machine tools.
3. Small Industries Promotion Officer, SISI, New Delhi.

MEHTA B.D.
(35 years)
1. Diploma in Mech. Engg.
2. Designing of press tools, jigs and fixtures, tool room and machine-shop.
3. Small Industries Promotion Officer, SISI, Rajkot.

**MEHTA N.K.**
(35 years)
1. Diploma in D'Man Mech. Advanced Course in Heat-treatment.
2. Tool Room designing of dies and fixtures heat-treatment.
3. Small Industries Promotion Officer, SISI, New Delhi.

**MITRA S.C.**
(37 years)
1. Diploma in Craftsmanship.
2. Smithy and Forging
3. Small Industries Promotion Officer Incharge, Ext. Centre, Tinsukia (Gauhati).

**NAGESWARA RAO P.V.**
(38 years)
1. Intermediate (Arts and Sc.) L.A.E., Diploma in Automobile Engg.
2. Machine shop practice
3. Small Industries Promotion Officer, Extn. Centre, Vijaywada.

**NAIR P.B.**
(39 years)
1. Licentiate in Mech. Engg.
2. Copper Smithy tools and die making and Gen. machine shop practice
3. Small Industries Promotion Officer, incharge of Central Workshop, SISI, Madras.

**NATT U.S.**
(35 years)
1. Diploma in Mech. Engg.
2. Die and tool making, Heat-treatment of steels.
3. Small Industries Promotion Officer, SISI Ext. Centre, Ujjain.

**NEOGI NIRMAL KANTI**
(33 years)
1. Dipl. in Mech. Engg. in D'Man (Mech.).
2. Design of Press tools and Structural Steel work
3. Small Industries Promotion Officer, SISI, Calcutta.

**PAHOOJA D.N.**
(33 years)
1. F.Sc., Diploma in Mech. D/M. AMIE Section 'A' Indl Management, 12 Weeks Training at SIETI Hyderabad.
2. Tool Room (designing and execution).
3. Small Industries Promotion Officer, SISI, New Delhi.

**PRABHAKARAN T.K.**
(33 years)
1. Diploma in Mech. Engg.
2. Mech. Engg.
3. Small Industries Promotion Officer, SISI, Indore.

**RAMAIAH T.**
(35 years)
1. S.S.L.C. Diploma in Mech. Engg. (Instrument Mech.)
2. Mech. Engg.
3. Small Industries Promotion Officer, SISI Ext. Centre, Shoranur.

**RAMACHANDRA B.**
(35 years)
1. Diploma in Mech. Engg. (Gen)
2. General Engg.
3. Small Industries Promotion Officer, SISI, Bangalore.

RAMEGOWDA H.K.
(34 years)
1. Diploma in Mech. Engg. (Gen) Diploma in Works Management
2. General Engg., Machine shop, Fabrication of structural items
3. Small Industries Promotion Officer, SISI, Hubli.

RANA RAGHBIR SINGH
(30 years)
1. F.Sc. and Diploma in Mech. Engg.
2. Mech. Engg.
3. Small Industries Promotion Officer, SISI, Ahmedabad.

ROY J.D.
(38 years)
1. Diploma in D'Man (Mech)
2. Design of press tools, heat-treatment, forging
3. Small Industries Promotion Officer, SISI, Gauhati.

SAHAI R.B.
(35 years)
1. Diploma in Craftsmanship (Mech) Specialised Training in Production Management, Training in Quality Control on Bicycle industry organised by Indian Standards Institution
2. Automobiles
3. Small Industries Promotion Officer, SISI, New Delhi.

SARKAR SAMIRAN
(31 years)
1. I.Sc., Diploma in Mech. Engg.
2. Tool Room, Machine Shop, Forging and Smithy
3. Small Industries Promotion Officer, Workshop I/c, SISI, Bombay.

SATHYANARAIN H.D.
(52 years)
1. M.S.L.C. (Maths and Science), Diploma in Higher grade Engg. (Mech. group) L.E.E.
2. Drawing, Design and Workshop layout
3. Small Industries Promotion Officer, SISI, Madras.

SATYANARAYANAN P.V.
(29 years)
1. L.M.E.
2. Industrial Engineering
3. Small Industries Promotion Officer, SISI, Bombay.

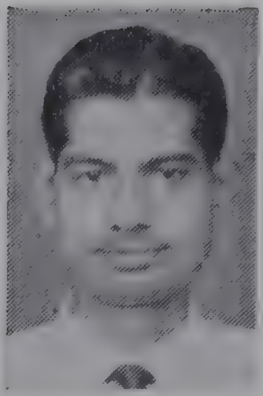
SAXENA BALVIR
(30 years)
1. Intermediate (Sc.) Diploma in Mech. Engg.
2. Dies and Tools
3. Small Industries Promotion Officer, SISI, Agra.

SAKSENA R.K.
(34 years)
1. Intermediate Diploma in Elect. and Mech. Engg.
5 years Mech. Apprenticeship course in Central Rly. workshops
2. Inspection, fabrication and maintenance of all types
3. Small Industries Promotion Officer, SISI, Allahabad.

SEN GUPTA A.K.
(39 years)
Passed 3 years course of Apprenticeship (Mechanical) from Ordnance Technical School, West Bengal
2. Mechanical Engineering specially in Tool room and machine shop work
3. Small Industries Promotion Officer, SISI, Calcutta.

SETH S.C.
(35 years)
1. Diploma in Wood Working
2. Wood working machines
3. Small Industries Promotion Officer, SISI Ext. Centre, Balsahyog, New Delhi.

SHARMA K.I.
(30 years)
1. Licentiate in Mech. Engg.
2. Process techniques in Mech. Engg.
3. Small Industries Promotion Officer, SISI, Madras.



SINGH B.M.
(30 years)
1. Matriculation, 5 Years Course in Machine shop Engg.
2. Machine Tool Assembly and manufacture of machine tools
3. Small Industries Promotion Officer SISI Extn. Centre, Varanasi.

SHARMA R.N.
(30 years)
1. Diploma in Automobile Engg.
2. Erection and maintenance of machine and machine tools,
Design and fabrication of jigs, fixtures, dies, punches, cutters and gears
3. Small Industries Promotion Officer, SISI, Indore.

SINHA K.G.
(40 years)
1. B.A., Completed Gen. Carpentry Trg.
2. Wood Working
3. Small Industries Promotion Officer, SISI, Gauhati.

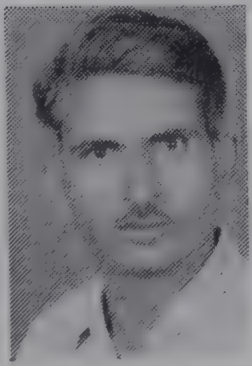
SHARMA N.K.
(32 years)
1. Diploma in Craftsmanship in machinist.
6 months certificate course in Blue Print reading.
2. Tool Room, jigs and fixtures of all types and press work of all types
3. Small Industries Promotion Officer, SISI, Srinagar.

SHANKAR M.B.

1. S.S.L.C.
L.M.E. (General)
2. Design of Jigs, fixtures and toolings
3. Small Industries Promotion Officer, SISI, Patna.

SOOD B.R.
(29 years)
1. I.Sc.
Diploma in Mech Engg.
2. Production Planning Machine Tool Design
3. Small Industries Promotion Officer (Mech), SISI Ext. Centre, Varanasi.

SHARMA H.C.
(30 years)
1. Inter Sc. Diploma in Mech. Engg.
AMIE
Training in Quality Control of Bicycle Industry organised by Indian Standards Institution
2. Manufacture of agricultural pumps
3. Small Industries Promotion Officer, SISI, Bombay.



SUKUMARAN P.
(56 years)
1. Passed Five Years course in Cabinet Making, Passed the Instructors' Training Course
2. Wood Working
3. Small Industries Promotion Officer, SISI Ext. Centre,Calicut.

SURYANARAYANA RAO G.S.
(35 years)
1. S.S.L.C., L.M.E.
2. Machining process, Jigs, fixtures and tools
3. Small Industries Promotion Officer, SISI, Madras.

THIRAVIAM K.P.
(40 years)
1. Diploma in Craftsmanship, Supervisory Course at PTC Rajkot, Indl. Management Course at SIETI, Hyderabad
2. Wood based industries and pattern making
3. Small Industries Promotion Officer, SISI, Bombay.

VISWANATHA RAO R.
(35 years)
1. L.M.E. (Automobile)
2. Erection of machinery, manufacture of machine tools and its accessories, manufacture of auto components
3. Small Industries Promotion Officer, SISI, Bangalore.

ASWATHNARAYANAN S.
1. Diploma in Mech. Engg.
2. Machine Shop practice, manufacture of moulding dies.
3. Investigator, SISI, Madras.

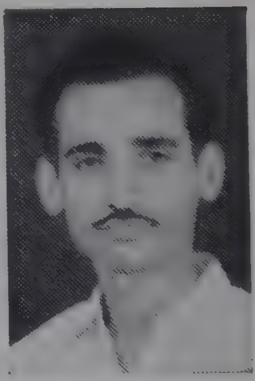
AYODHYA PRASAD
(28 years)
1. Diploma in Mech. Engg.
2. Construction work, Structural fabrication, installation of machines and power stations equipments, elect. constructions and maintenance etc.
3. Investigator, SISI, Calcutta.

BALAN K.
(34 years)
1. Craftsman Training in the trade of turner, Implant Training, Supervisory Training, One Month Course in Metrology
2. Machine Shop and Tool Room
3. Investigator, SISI, Bangalore.

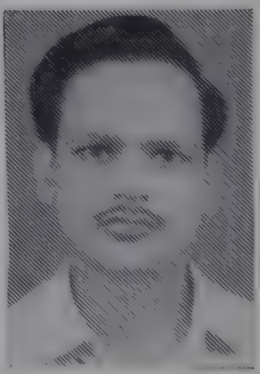
BANERJEE ASHOK KUMAR
(30 years)
1. I.Sc., Diploma in Electrical and Mechanical Engg.
Three years Apprenticeship at Mohindra & Mohindra Ltd. Calcutta
2. Mechanical Engg.
3. Investigator, SISI, Calcutta.

BANERJI PRABIR KUMAR
(30 years)
1. School Final Diploma in the Trade of Tool and Die maker, Blue print reading and Indl. Management Course.
2. Tool Room jobs
3. Investigator, SISI, Calcutta.

BANERJEE SAMIRAN
(28 years)
1. L.M.E.
2. Machine Shop
3. Investigator, SISI, Cuttack.



BEHERA GANDHARBO
(32 years)
1. Diploma in welding both gas and electric, National Trade Certificate in Blacksmith, Supervisory Course from P.T.C. Rajkot
2. Gas Arc Resistance—Welding
3. Investigator, SISI, Cuttack.



**BRAJ BIHARI RAM**
(28 years)
1. Inter Science Diploma in Mech. Engg.
2. Manufacture of Dies and Tools
3. Investigator, SISI, Jaipur

**CHATRATH RAMESH CHANDER**
(26 years)
1. Diploma in Mech. Engg. AMIE Section 'A' and Section 'B' (Mech. Engg. Group)
2. Thermal Power Engg. and Gen. Elect. Engg.
3. Investigator, SISI, Ahmedabad.

**CHADDA GURCHARAN SINGH**
(26 years)
1. Diploma in Mech. Engg. Section A & B of AMIE (India) in Mech. Engg.
2. Tool Room Practice
3. Investigator, Headquarters.

**DAS ANANDA RAM**
(32 years)
1. Passed ITI (Fitter Trade), Training in fittings and assembling at I.J.P. Howrah
2. Fitting and assembling of machines
3. Investigator, SISI, Gauhati.

**CHANDRASEKARAN M.**
(28 years)
1. Pre-university course, Diploma in Mech. Engineering
2. General Engg.
3. Investigator, SISI, Madras.

**GEORGE THOMAS**
(34 years)
1. B.Sc., Passed Trade test as Turner and completed 11 months Inplant training as Machinist
2. Machine shop and sheet metal press work
3. Investigator, SISI, Bangalore.

**CHOSAR KEWAL KRISHAN**
(31 years)
1. Intermediate Science Grade I.E. (India) in Mech. Engg. Short-term course in Advanced Workshop Technology, in work study, Production Management
2. Design of jigs and fixtures, tools and dies, Cams for automats etc. and their manufacture
3. Investigator, SISI, New Delhi.

**GUHA BAIDYA NATH**
(25 years)
1. Diploma in Mech. Engg.
2. Machine Design
3. Investigator, SISI, Jaipur.

**CHOPRA H.C.**
(28 years)
1. Diploma in Mech. Engg. Trg. in Machinist from PTC Okhla, Indl. Management Training at SIETI, Hyderabad
2. Machine Shop, Quality control and manufacturing processes (Production)
3. Investigator, SISI, New Delhi.

**HALDAR DINESH CHANDRA**
(24 years)
1. Higher Secondary (Tech) L.M.E. One Year Practical Trg. at Railway workshop
2. General Mechanic
3. Investigator, SISI, Allahabad.

**INAMDAR SURESH**
(27 years)
1. Diploma in Mech. Engineering
2. General Mechanic
3. Investigator, SISI Extn. Centre, Jodhpur.

**JAKHETIA P.D.**
(26 years)
1. Diploma in Mech. Engg., Post Diploma in Automobile Engg.
2. Automobile Engg.
3. Investigator, Headquarters

**JERATH BHIM SAIN**
(27 years)
1. Diploma in Mech. Engineering
2. Dies (Plastic and Sheet metals), tools, jigs and fixtures
3. Investigator, SISI, Agra.

**KHURANA M.L.**
(37 years)
1. Diploma in D'Man (Mech), Technician course in the manufacture of optics and optical components, Training of Chief Technician level under Colombo Plan in U.K. in the manufacture of Optical and Scientific Instruments
2. Optics and Optical Instrumentation
3. Investigator, SISI, New Delhi.

**KRISHAN LAL**
(27 years)
1. B.Sc. Diploma in Mech. Engg.
2. Tool Room, jigs and fixtures, work study, die work.
3. Investigator, SISI, Ext. Centre, Meerut.

**KRISHNAN T.**
(28 years)
1. Diploma in Mech. Engineering
2. Machine shop, die designing and manufacturing and heat-treatment of metals
3. Investigator, SISI, Madras.

**KUNJAPPAN K.A.**
(30 years)
1. S.S.L.C.
Diploma in Mech. Engineering
2. Mechanical Engg.
3. Investigator, SISI, Ahmedabad.

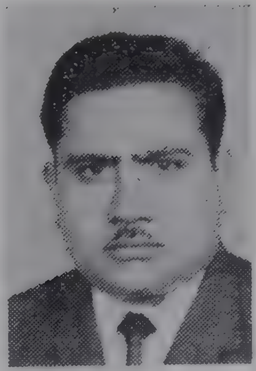
**KUNJU A. SYED MOHAMED**
(37 years)
1. Intermediate Course [Certificate of D/Man Training, Blue Print reading, supervisory training
2. Tool Room Practice
3. Investigator, SISI, Trichur.

**MAKARANDA KUNTI MADDI**
(32 years)
1. S.S.L.C., Diploma in Mech. Engg.
2. Automobile Engg.
3. Investigator, SISI, Madras.

**MATHEW C.V.**
(30 years)
1. S.S.L.C., National Trade certificate
2. Tools and die making
3. Investigator, SISI, Bangalore.

**NADAR THANKAMONY K.**
(33 years)
1. S.S.L.C., Craftsman Trg. course, Diploma in Rural Service
2. Universal and Milling Machines
3. Investigator SISI, Bombay.

**NARAYANAN ACHARY M.N.**
(37 years)
1. S.S.L.C., Carpentry trade certificate course, Supervisory training course in foundry and pattern making
2. Foundry and pattern making trades
3. Investigator SISI, Bangalore.



**OM PARKASH**
(31 years)
1. National trade Certificate in Tool making, P.T.C. Okhla in tool room apprenticeship
2. Tool Room Practice
3. Investigator SISI, Ext. Centre, Balsahyog, New Delhi.

**PADMANABHAN NAIR M.K.**
(38 years)
1. S.S.L.C., 9 Months Trg. in Fitter Trade under the educated unemployed scheme and Inplant training
2. Machine shop practice and wood seasoning
3. Investigator SISI, Trichur.

**PAL HARI SADHAN**
(36 year)
1. Matriculation, Motor mechanics, National Trade Certificate (welding)
2. Welding
3. Investigator, SISI, Indore.

**PANCHAPEKESAN M.B.**
(26 years)
1. Pre-university Course, L.M.E.
2. Designing of Special purpose machines, press tools, jigs, fixtures and tooling
3. Investigator, SISI, Madras.

**PANGASA SATISH KUMAR**
(25 years)
1. Inter (Sc) Diploma in Mech. Engg., Passed 6 papers of the Section 'A' of AMIE (India)
2. Machine Shop Practice
3. Investigator, SISI, New Delhi.

**PARTHASARATHY N.**
(29 years)
1. SSLC, L.M.E.
2. Sheet metal and Welding machine shop practice
3. Investigator, SISI, Madras.

**PETER FRANCIS**
(26 years)
1. Entrance Exam. of Diploma in Mech. Engg. Trade Certificate Course in Turners and Fitters, 3 Years Course in Machine Shop Practice
2. Designing and making of tools, press tools, jigs and fixtures, simple & special purpose machines
3. Investigator SISI, Goa.

**PRABHAKARAN P.K.**
(28 years)
1. S.S.L.C., Diploma in Mech. Engg.
2. Mech. Engg.
3. Investigator, SISI, Trichur.

**PRASAD AMIR CHAND**
(34 years)
1. Passed Three Years' Course in Mech. Engg.
2. Maintenance and overhaul of motor transports and heavy equipments, Structural fabrication and erection.
3. Investigator SISI, Patna.

**RAJAKUMAR K.B.**
(30 years)
1. Pre-University Course, Licentiate in Mech. Engg. (L.M.E.)
2. Pattern making
3. Investigator, SISI, Madras.

**SAHA KALI PRASAD**
(35 years)
1. Dipl. in D/Man (Mech) from Industrial Training Institute
2. Designing of machinery, machine tools, jigs and fixtures, cutting tools, Press tools and Gauges
3. Investigator, SISI, Calcutta.

**SHARMA H.B.**
(34 years)
1. I.Sc. Diploma in D/Manship, Specialised Trg. in Tool making from PTC, Okhla
2. Press Tools, dies
3. Investigator SISI Extn. Centre, Ranchi.

**SHARMA RAJENDRA BEHARI**
(34 years)
1. Diploma in Craftsmanship (Mech. General)
2. Sheet Metal and Machine Fitting
3. Investigator, SISI, Jaipur.

**SANT SYAM SUNDAR**
(29 years)
1. Diploma in Mech. and Elect. Engg.
2. Tool Room
3. Investigator, SISI Ext. Centre, Malda.

**SEN GUPTA PRITI MAY**
(26 years)
1. I.Sc. and L.M.E.
3. Investigator, SISI, Calcutta.

**SINGH AJAIB**
(34 years)
1. I.T.I. National Trade Certificate in Turner Trade
2. Machine Shop
3. Investigator, SISI Extn. Centre, Ambala.

**SINGH GURBACHAN**
(42 years)
1. National Trade Certificate in Carpentry and in Pattern Making
2. Carpentry and (Pattern Making)
3. Investigator, SISI Extn. Centre, Balsahyog

SINGH SEWA
1. Higher Secondary, 3 Years Diploma Course in Mech Engg.
3. Investigator, SISI Ext. Centre, Batala.

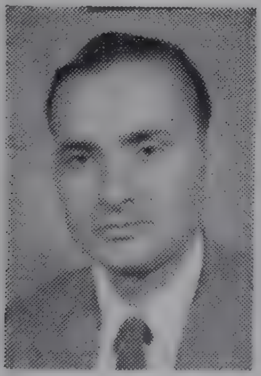
VISHWANATHAN ACHARI
(35 years)
1. SSLC, Craftsman Training in Mech. Engg.
2. Machine Tool Operation and Maintenance
3. Investigator, SISI, Madras.

## METALLURGY DIVISION

NARAYANASWAMY M.
(57 years)
1. B.Sc. (Met)
2. Foundry practice and special grey iron, non-ferrous and malleable foundry practice units
3. Director, SISI, Srinagar (J & K).

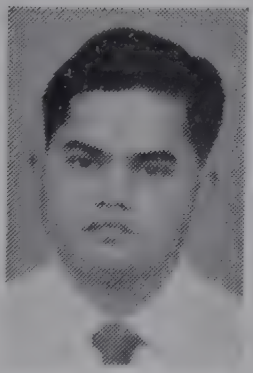
GHOSH SISIR KUMAR
(48 years)
1. B.Sc, M.I.I.M. Passed the subject of Mech. and Thermal Treatment of the Overseas Examination of the Institution of Metallurgists, London, Supervisors. Trg. (Apprenticeship) Course in Met. specialising in Heat-treatment from I.O.F. Training Centre, Ishapore
2. Metallurgy (Heat-treatment), Metal and Steel, Heat-treatment of tools etc.
3. Deputy Director, SISI, Patna.

BANERJEE A.K.
(50 years)
1. B.Sc. in Met. Engg.
2. Foundry and Heat-treatment
3. Deputy Director, SISI, Calcutta.



PALIT K.L.
(50 years)
1. B.Sc., B.Sc. (Met.), Certificate in Modern Foundry Practice
2. Metallurgy (a) Foundry Practice (Ferrous and Non-ferrous) (b) Heat-treatent Practice (Ferrous Metallurgy) and (c) Steel Forging and Re-rolling
3. Deputy Director, SISI, Indore.

BHAKTA J.N.
(43 years)
1. B.A., D.M.E.E. A.M.I.B.F. (London) M.I.I.M., M.I.I.F. (India), Special Course in Foundry Engineering and Modern Foundry Practice in the I.I.T., Kharagpur
2. Metallurgy (Foundry & Heat-treatment)
3. Deputy Director, SISI, Hyderabad



TANDON HARISH CHANDRA
(47 years)
1. B.Sc. (Met)
2. Metallurgical Engg. Heat-treatment of ferrous and non-ferrous metals, alloys
3. Deputy Director, SISI, Ludhiana.

ABROL S.C.
(48 years)
1. Tradesman's Diploma four years' course, Graduate Refresher Course in Heat-treatment of metals from Roorkee
2. Heat-treatment of metals, Inspection of Engg. goods, Designing of furnaces
3. Assistant Director, SISI, New Delhi.

ASTHANA R.G.P.
(40 years)
1. Diploma in Mech. Engg., Certificate Course of Eastern Railway Technical School, Jamalpur (Bihar)
2. Pattern designing and making (wood and metal) Foundry (ferrous and non-ferrous), Wood working.
3. Assistant Director Incharge, SISI Ext. Centre, Kotah.

BASU T.N.
(31 years)
1. B.Sc., B.E. (Met)
2. Heat-treatment of metals and alloys Metal testing and Quality Control.
3. Assistant Director, SISI, Cuttack.

BHATT D.G.
(42 years)
1. B.Sc., City and Guilds in Advance Foundry Practice
2. Malleable Iron Castings
3. Assistant Director, SISI, Bombay.

CHADHA P.D.
(39 years)
1. Intermediate from City and Guilds, London, in Foundry Practice. Supervisor Instructor Course from Central Training Institute for Instructors
2. Ferrous and non-ferrous castings
3. Assistant Director, SISI, Agra.

CHAUHAN VIMAL DEO SINGH
(42 years)
1. B.Sc. (Met.), M.I.I.M.
2. Manufacture of small tools
3. Assistant Director Incharge, SISI Ext. Centre, Varanasi.

DAS AJOY BHUSHAN
(35 years)
1. I. Sc. Diploma in Mech. & Elect. Engg. (4 years)
2. Foundry, Heat-treatment and metal testing
3. Assistant Director, SISI, Patna.

GUPTA DEBASISH_DAS
(32 years)
1. B.E. (Met), training in Management Consultancy in France
2. Foundry and Heat-treatment.
3. Assistant Director, SISI, Jaipur.

GUPTA S.P.
(46 years)
1. B. Met., M.I.E.I.
2. Quality Control and Foundry Practice.
3. Assistant Director, SISI, Calcutta.

LALL B.S.
(43 years)
1. Diploma in Mech. Engg. and M.I.I.M.
2. Heat-treatment of ferrous and non-ferrous metals, Foundry, Hot Dip Galvanising, Galvanising of steels and production management.
3. Assistant Director, SISI, Kanpur.

NAGPAL O.P.
(39 years)
1. Intermediate, Passed Inter and Final Exams in Foundry Practice from City and Guilds, London.
2. Foundry Practice
3. Assistant Director, SISI, Ludhiana.

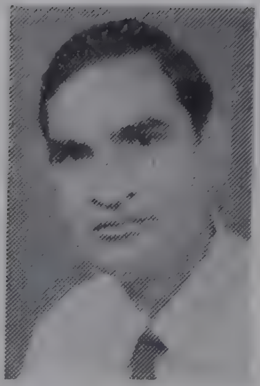
PARTHASARATHY R.
(42 years)
1. A.M.I.B.F. (U.K.), Advance Trg. in Foundry Technology in U.K. and West Germany
2. Foundry Technology, Manufacture of Nickel Chrome, alloy casting, malleable iron casting and S.G. iron
3. Assistant Director I/c, SISI, Ext. Centre, Coimbatore.

SARKAR RAJAT KUMAR
(29 years)
1. B.E. (Met)
2. Metallurgy
3. Assistant Director I/c, SISI Ext. Centre, Muzaffarpur (Bihar).

SARKAR S.
(29 years)
1. B.Sc. (Hons) M.I.I.M.
2. Metallurgy, heat-treatment of steel and non-ferrous alloys
3. Assistant Director,
Ext. Centre, Rewari.

SINGH MANMOHAN
(45 years)
1. Modern Foundry Technology from I.I.T. Kharagpur, Indl. Management Course from SIETI, Hyderabad, Associate.
Member of the Institute of Indian Foundrymen.
2. Foundry Technology
3. Assistant Director, SISI, Ludhiana.

TAMBAT D.S.
(42 years)
1. Inter Science, City and Guilds in Foundry Practice
2. Ferrous and Non-ferrous metals
3. Assistant Director Incharge, SISI Ext. Centre, Ujjain.



DATTA D.K.
(33 years)
1. Diploma in Mech. and Elect. Engg.
2. Foundry and Heat-treatment (Metallurgy)
3. Small Industries Promotion Officer, SISI Ext. Centre, Ambala Cantt.

HASEEB MOHD
(29 years)
1. Training in Heat-treatment, blue print reading and machine shop
Advance training in Material Testing
Training in Indl. Management
Apprenticeship in Heat-treatment
2. Heat-treatment
3. Small Industries Promotion Officer, SISI, Ludhiana.

JANARDHAN C.
(36 years)
1. S.S.L.C. Diploma in Mech. Engg.
2. Modern Foundry Practice
3. Small Industries Promotion Officer, SISI, Trichur.

KALRA HARBHAJAN SINGH
(35 years)
1. National Certificate in Mech. Engg.
Sections 'A' and 'B' of Institution of Engineers (India) in Metallurgical Engg.
2. Foundry and Metallurgy
3. Small Industries Promotion Officer, SISI, New Delhi.

MAHESHWAR RAO A.
(32 years)
1. H.S.C., Certificate in Electrician trade
2. Heat-treatment
3. Small Industries Promotion Officer, SISI, Rajkot.

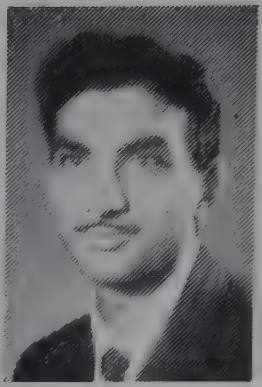
MAITRA GOPAL
(32 years)
1. Intermediate (Sc.) Dipl. in Mech. and Elect. Engineering
2. (a) Ferrous and Non-ferrous, melting and Foundry practice.
(b) Heat-treatment of Ferrous and N.F. alloys.
(c) Physical testing of Ferrous and N.F. metals
3. Small Industries Promotion Officer, SISI, Calcutta.

MALAKAR D.K.
(29 years)
1. L.M.E.
2. Foundry and Heat-treatment
3. Small Industries Promotion Officer, SISI, Calcutta.

RAVI K.V.
(26 years)
1. Apprenticeship under National Apprenticeship Scheme
2. Heat-treatment of steel
3. Small Industry Promotion Officer (Met), SISI Bangalore

ROY MANABENDRA NARAYAN
(31 years)
1. B.Sc. Training as Chemical Analysis and Heat-treatment
2. Heat-treatment
3. Small Industries Promotion Officer, SISI, Gauhati.

SHARMA SUBHASH CHANDER
(27 years)
1. Three Years' Diploma Course in Mech. Trades, Specialised Trg. in Fdy. and Heat-treatment Practice from PTC New Delhi, Attended referesher course in the Instructor Course at C.T.I. Ludhiana, Indl. Management Course at SIETI. Hyderabad
2. Heat-treatment metals, Inspection of Light Engineering Products.
3. Small Industries Promotion Officer, SISI, New Delhi.



SHUKLA HAR NARAYAN
(28 years)
1. B.E. (Met) D.I.I.T. (Post Graduate Diploma in Heat-treatment Technology from I.I.T. Bombay)
2. Heat-treatment Technology
3. Small Industries Promotion Officer, SISI, Bombay.

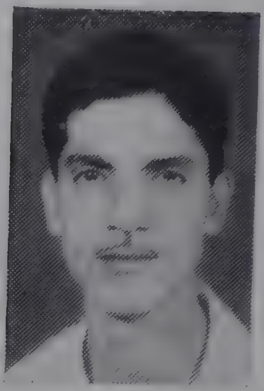
SRIVASTAVA V.P.
(33 years)
1. High School, Certificate Course in Fdy. Practice
2. Foundry
3. Small Industries Promotion Officer, SISI Ext. Centre, Aligarh.

TALUKDAR B.K.
(32 years)
1. Three Years Apprenticeship in Mech. Engg. Supervisors' Course, Advance Course in Foundry and Heat-treatment IMT Course from SIETI Hyderabad.
2. Foundry
3. Small Industries Promotion Officer, SISI, Jaipur.

THIAGARAJ NOVIS
(30 years)
1. S.S.L.C., L.M.E. Production Management and Indl. Management Course at SIETI, Hyderabad
2. Designs and Drawings Metallurgical Analysis
3. Small Industries Promotion Officer, SISI, Madras.

**BHASKAR SATISH KUMAR**
(24 years)
1. Higher Secondary, Trg. in Heat-treatment
2. Heat-treatment of metals
3. Investigator, SISI, New Delhi.

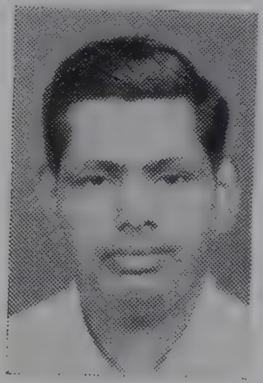
**DAS J.K.**
(30 years)
1. Under Matric
2. Heat-treatment, Machine Shop and Fitting
3. Investigator, SISI, Gauhati.



**CHAKKU K.**
(36 years)
1. S.S.L.C., Trade Test Moulding, Implant Training in moulding
2. Moulding methods and core making process
3. Investigator, SISI, Hyderabad,

**DUTTA SURINDAR KUMAR**
(28 years)
1. S.F. Exam., Trade Certificate Course, Apprentice(Implant Training)
2. Heat-treatment of Ferrous and Non-ferrous metals
3. Investigator, SISI, Kanpur.

**PARAMANANDAM P.**
(42 years)
1. III Form
2. Foundry, Heat-treatment Foundry, Lab. testing
3. Investigator (Met), SISI, Madras.



## PUBLICITY AND PUBLIC RELATIONS

**(MRS.) CHIBBER R.**
(39 years)
1. M.A. (Hindi), B.T.
2. Publicity and Public Relations
3. Assistant Editor (Hindi), H. Qrs.

**GOEL S.P.**
(40 years)
1. Shastri (Kashi Vidyapith) M.A. (Philosophy) BHU, Training in Industrial Management
2. Publicity and Public Relations
3. Assistant Editor, H. Qrs.

**MADHUKAR R.S.**
(35 years)
1. M.A. (History), M.A. (Hindi), B. Ed.
2. Publicity and Public Relations
3. Assistant Editor (Hindi), H. Qrs.

**AGRAWALA N. M.**
(40 years)
1. M.A. (Hindi), M.A. (History)
2. Journalism, Editing, Translation and Publicity Work
3. Hindi Translator, H. Qrs.

**RAJ NARAIN**
(26 years)
1. M.A. (Pol. Science)
2. Journalism, Editing, Translation and Publicity Work
3. Hindi Translator, H. Qrs.

## RURAL INDUSTRIES PROJECTS COMMITTEE SECTION

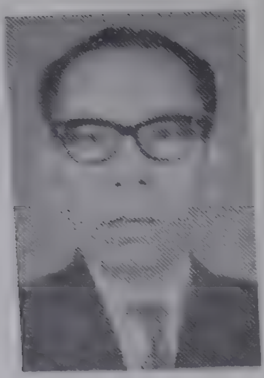
**MATHAI P.M.**
(56 years)
1. B.A., Completed Course in Banking and Book-Keeping
2. Industrial Estates, Rural Industrialisation Planning and Development of Village and Small Scale Industries
3. Director, Rural Industries & Industrial Estates, H. Qrs.

**KHAN Dr.A.M.**
1. Ph.D. (Industrial Economics)
2. Economic Surveys, Planning and Development of Industries
3. Research Officer, Rural Industries Planning Committee, H. Qrs.

**DHAR P.N.**
1. M.A. (Economics), LL.B.
2. Industrial Economics.
3. Joint Director, Rural Industries. Planning Comittee, H. Qrs.

**VISWANATHAN K.V.**
1. M.A. (Economics)
2. Planning and Development of Industries in Rural Areas
3. Research Officer, H. Qrs.

**SAAZ JIA LAL**
(43 years)
1. M.A. J.D.
2. Publicity & Journalism
3. Editor, H. Qrs.



### TAILORING AND CUTTING

**SAXENA R.D.**
(56 years)
1. Matric
2. Tailoring and Cutting
3. Small Industries Promotion Officer, SISI, Balsahyog, New Delhi.

## GENERAL

HAYWARD W.S.C.
(43 years)
1. B.A. Hons Received training at the State Administrative College (Bihar)
2. Civil Administration Revenue Administration General Administration Development of ancillaries and Marketing
3. Dy. Director, SISI, Patna.

MATHUR L.M.
(39 years)
1. Intermediate (Science)
Diploma in Electrical & Mechanical Engineering
2. Tool Room and General Machine Shop
Production Planning
3. Assistant Director H. Qrs.

## INDUSTRIAL DESIGN CELL

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(55 years)
1. Diploma in Fine Arts
Study of Industrial Designs in Japan.
2. Furniture designing and wood working.
Designs for ceramic and leather industries.
3. Industrial Designer, SISI, New Delhi.

GUPTA SUDHIN
(46 years)
1. Dipl. in Fine Arts and Crafts. (Viswabharati, Shanti-Niketan).
2. Designing of Furniture.
Exhibitions.
3. Asstt. Industrial Designer, S.I.S.I. New Delhi.

KALIANPUR P.
(53 years)
1. G.D. Art (Bom) 1959
F.R.S.A. (Lon) 1948
2. Fine Art, Commercial Art, Industrial Safety, Productivity and worker's education.
Industrial Designs.
3. Industrial Designer, S.I.S.I., New Delhi.

JOMRAJ M.A.
(43 years)
1. Diploma in Painting, Certificate—Refresher course in children's Book Illustrations.
2. Techniques of Applied Decoration on Metal, Glass, Pottery and Plastics.
3. Assistant Industrial Designer, S.I.S.I., New Delhi.

BRAHMARAKASHAS M.R.
(38 years)
1. Dipl. in Engg. (Elect.)
Intermediate Grade Drawing examination Govt. of Bombay.
2. Industrial Designing of Domestic Electrical Appliances and Accessories.
3. Asstt. Indl. Designer, S.I.S.I. New Delhi.

MUKERJEE K.M.
(53 years)
1. Diploma in Commercial Art (Govt. College of Art and Crafts Calcutta/.
Practical Trg. in Indl. Designs for six years.
2. Furniture Designs
Advertising and Visual publicity.
3. Assistant Indl. Designer, S.I.S.I. New Delhi.

PAKRASHI C.R.
(47 years)
1. Dipl. in Commercial Art.
2. Industrial Designing (Wooden and Tubular furniture).
Designing of Publicity materials.
3. Asstt. Indl. Designer S.I.S.I. New Delhi.

ROY S.K.
(46 years)
1. Final Degree (Abschluss Dip.) in Applied Art. Certificate in Printing. Final Exam in Fine Art. Final Exam, in Draftsmanship (Mech. and Architectural). Certificate in German Language Course.
2. Industrial (product) design. Fine Arts. Graphic Arts.
3. Assistant Indl. Designer, S.I.S.I. New_Delhi.

# HOW BIG THE SMALL MAN COULD BE

*A Small Man in a Small Village reads about the Small Industries Extension Programme*

INDIA, today, needs the 'SMALL MAN'—the small industrialist—in a BIG way. Imperatives, economic and social, and the urge to catch up with a fast moving world with her teeming and expectant millions, influenced her to take to this policy of development of the 'SMALL MAN'. The need to broadbase entrepreneurship has been the most pressing of all the reasons. For, if not anything else, India abundantly needs 'JOB CREATORS' instead of 'JOB SEEKERS'.

The Small Industry Programme has been a rewarding experience in this context.

The 'SMALL MAN' nevertheless has never remained small. "GROWTH" has been and remains the hallmark of the small sector. It is fascinating to know "How Big A Small Man Could Be". The potentialities this sector holds, especially with a wide range of assistance programmes available today, are promising.

The following true story which has been culled out from the pages of thousands of such experiences unfolds this theme in the ensuing lines.

*Curiosity takes him to one of the sixteen Small Industries Service Institutes in the country dedicated to the service of small industries.*

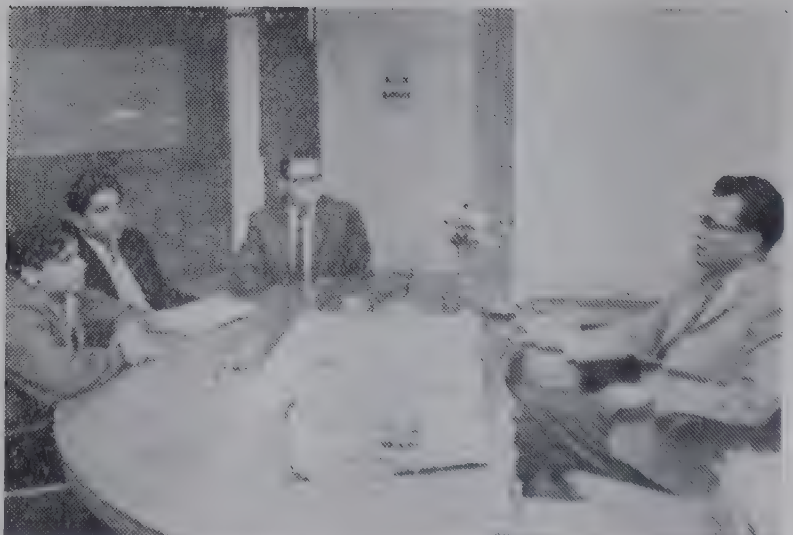
*He gets an idea about the prospects and scope of setting up a small industrial unit and is thrilled by the innumerable schemes offered to him by Small Industries Service Institute.*

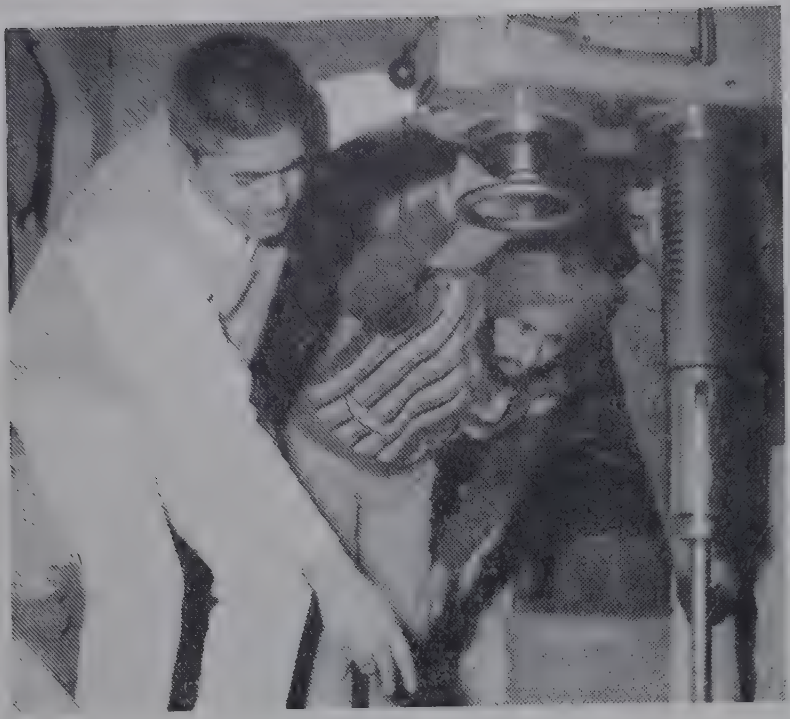
*The spirit of adventure and success sets him on deeper exploration and detailed discussions for know-how.*

*. . . . . and all this leads the SMALL MAN to set up a small industrial unit of his own where he can satisfy his creative zeal.*

*SMALL MAN gets the common facility service from Small Industries Service Institute Workshop to help him in his initial and humble start.*

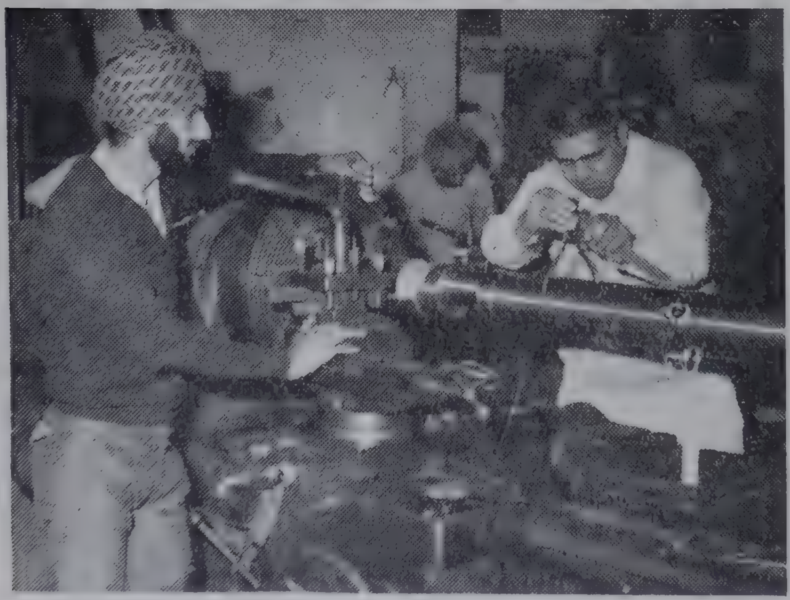
*National Small Industries Corporation comes to his rescue by providing additional machinery and equipment on hire-purchase.*





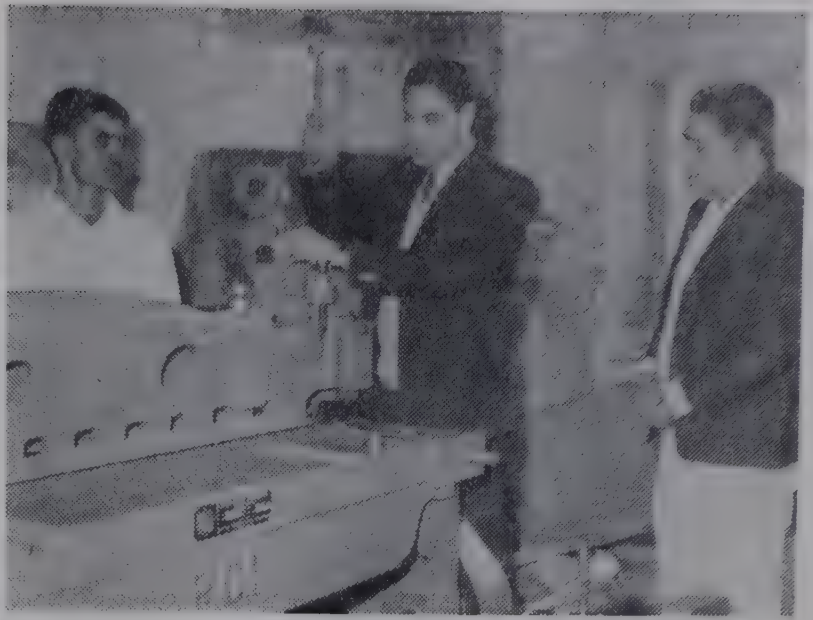
*For him work is worship—he lends a loving hand in the installation of his new machines.*

*Need for funds of course takes him to one of our Nationalised Banks which are now fully geared up to afford all the financial help to small industrialists and ambitious entrepreneurs.*



*With all initial problems solved, he concentrates on Quality Control to ensure a popular and permanent demand for his products.*

*No compromise on quality—he offers his machines for testing & grading to the Inspecting Officer of the Directorate General of Supplies & Disposals.*

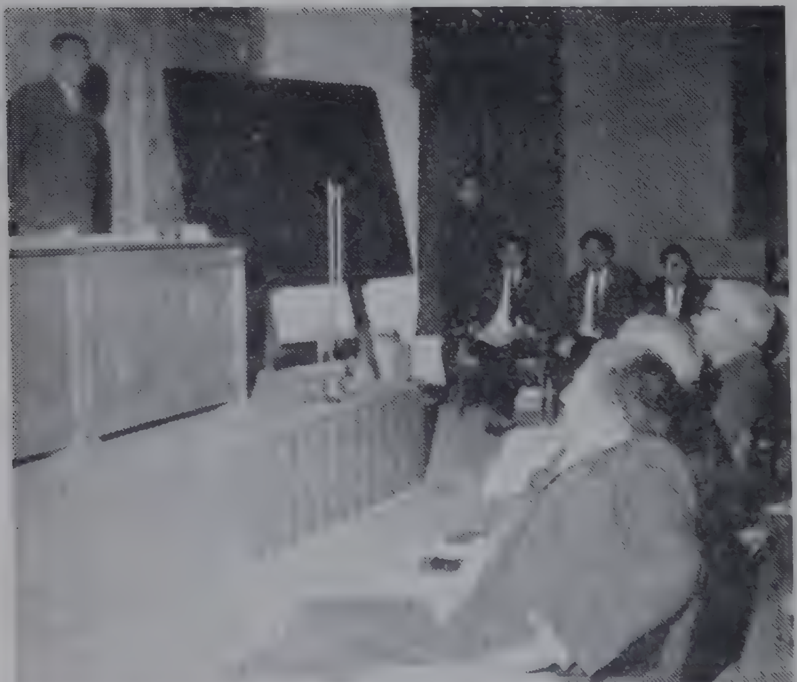


*His sincerity of purpose pays dividends—DGS & D's Inspection Division recommends his machines for grading certificate.*

*Raw Material needs are discussed with the Director of Industries who recognises the potential of the SMALL MAN.*

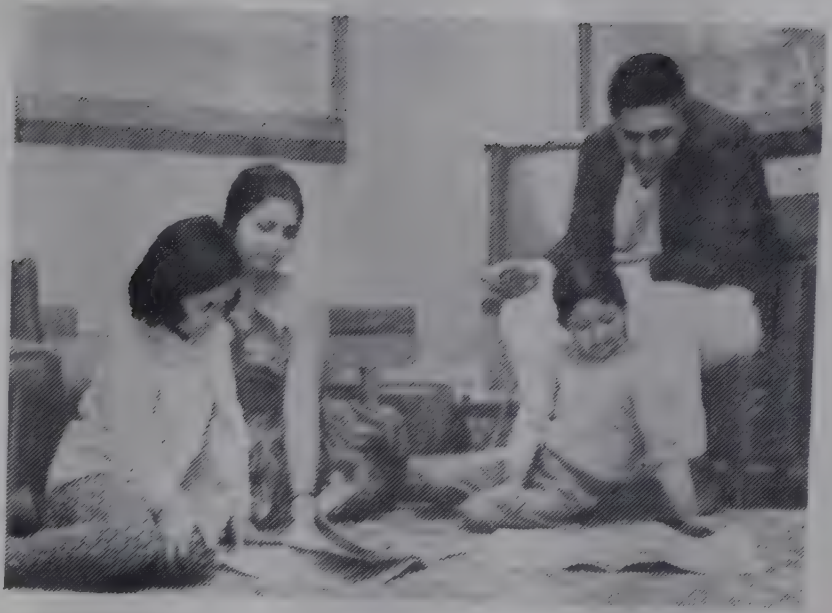
*Portals of big business open before him with the increase in production of his machines of graded quality.*

*Lo! Foreign markets too, open up for his products and he earns valuable foreign exchange for the country.*



*Once fully organised, he finds time to keep abreast with the improving technologies by attending Industrial Training & Management Course organised by the Small Industries Service Institutes.*

*Blessings of a small industrial unit bring a big happiness to the family of the SMALL MAN.*



*His wife's dream of a modern kitchen turns into reality.*

*His material acquisitions—a house, a car and what not.*

*His spiritual debt—he worships the Almighty with his family to express his gratitudes for the bounteous blessings showered on him.*

*FINALLY, he has a message to give—"SMALL MEN's redemption lies in the setting up of SMALL INDUSTRIAL UNITS".*

"....educated young people should not depend on salaried jobs and should try to create self-employment. It is only when our young engineers and technical personnel are willing to take risks that our country can prosper."

—*Indira Gandhi*

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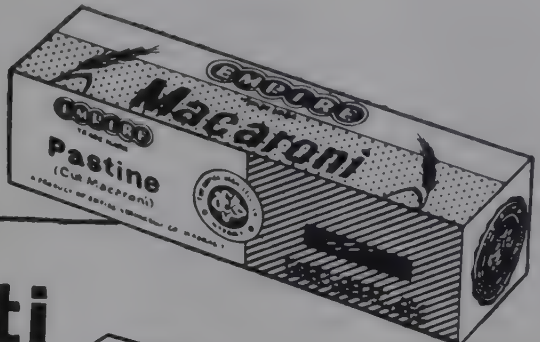

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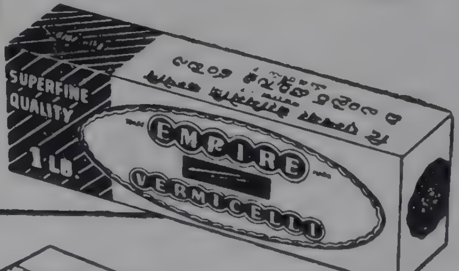
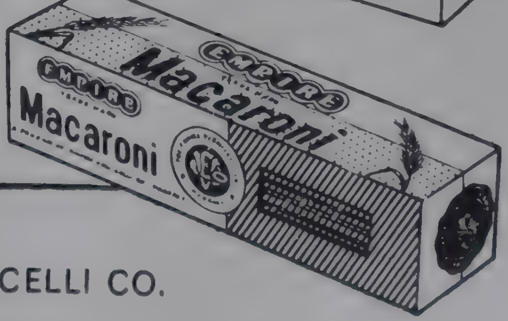


**Macaroni**



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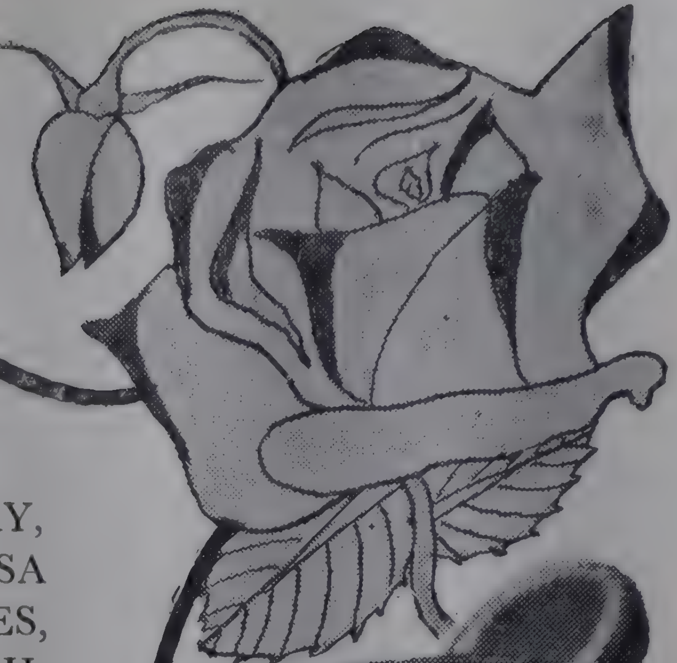

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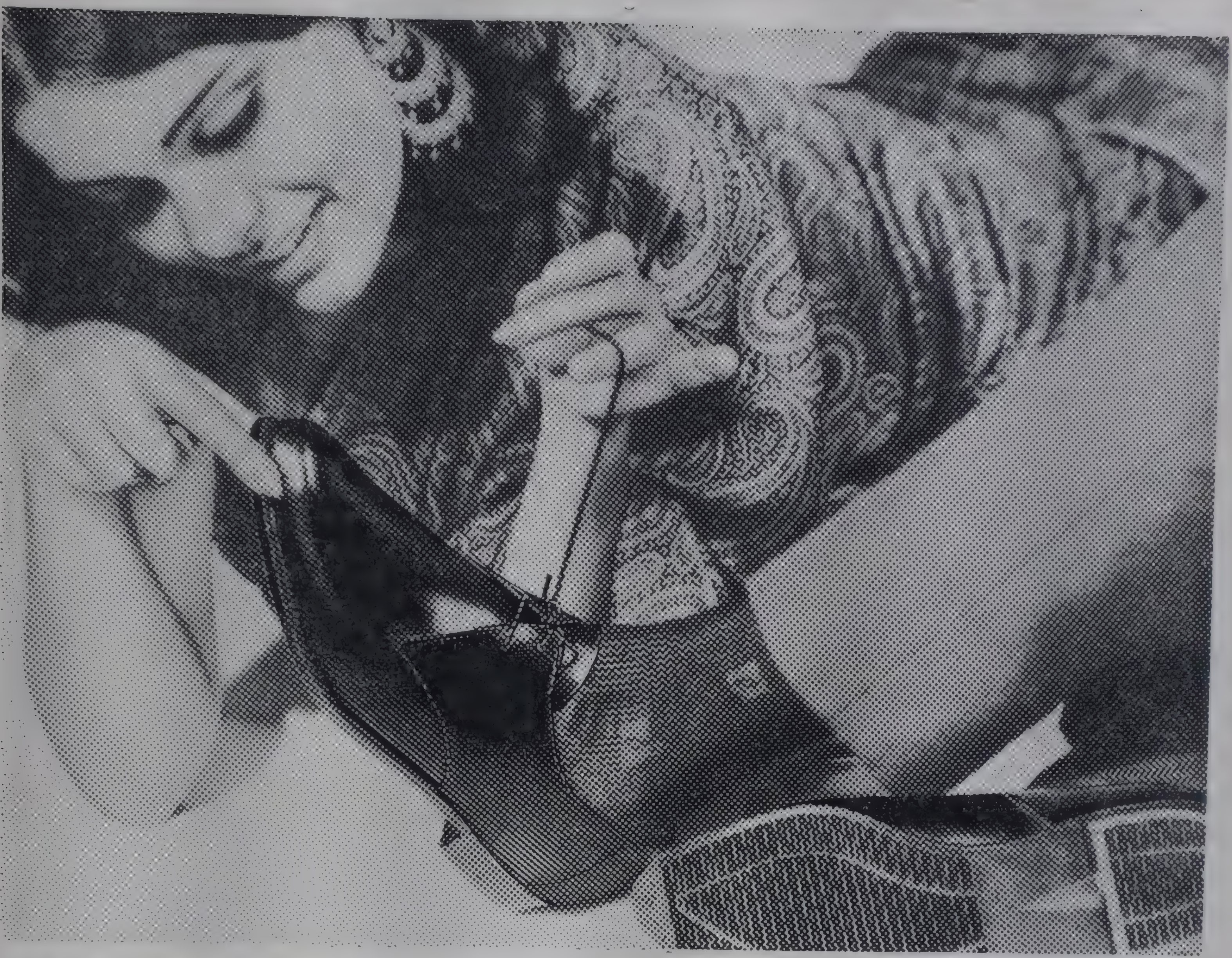

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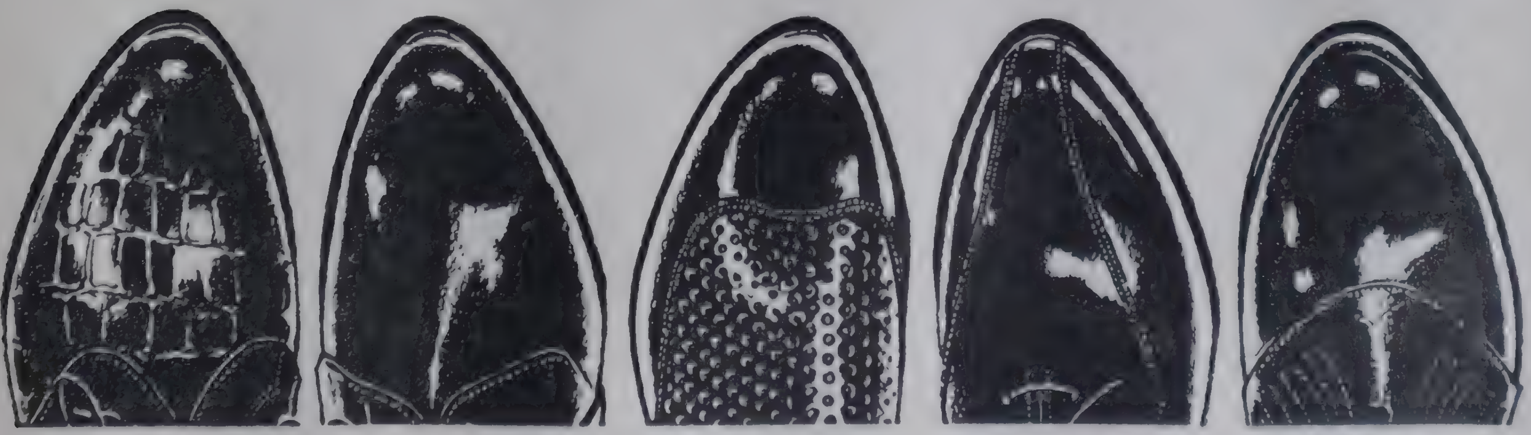

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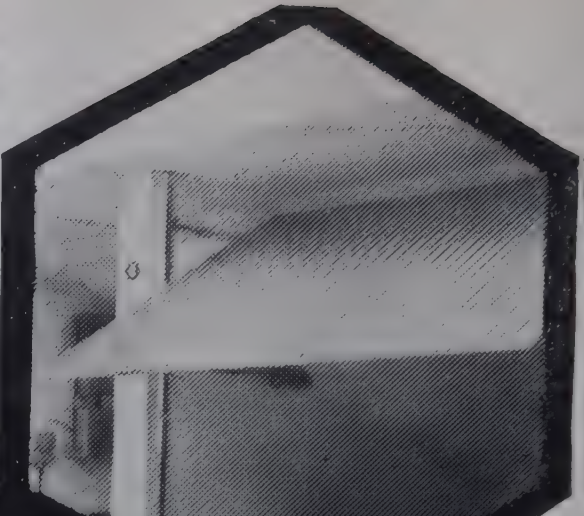

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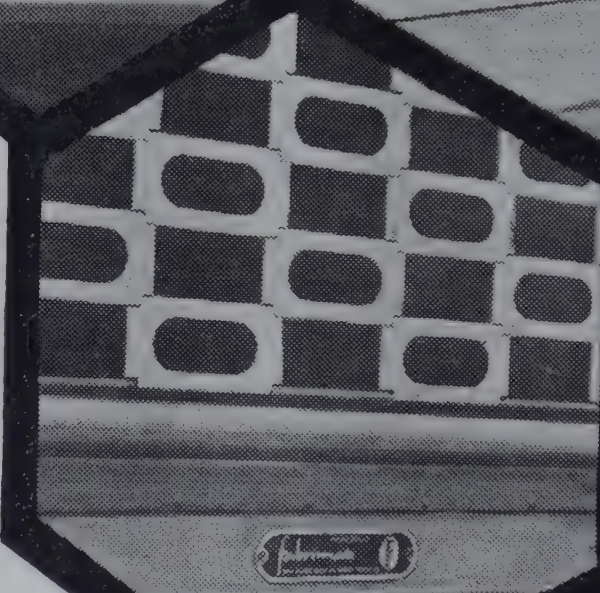

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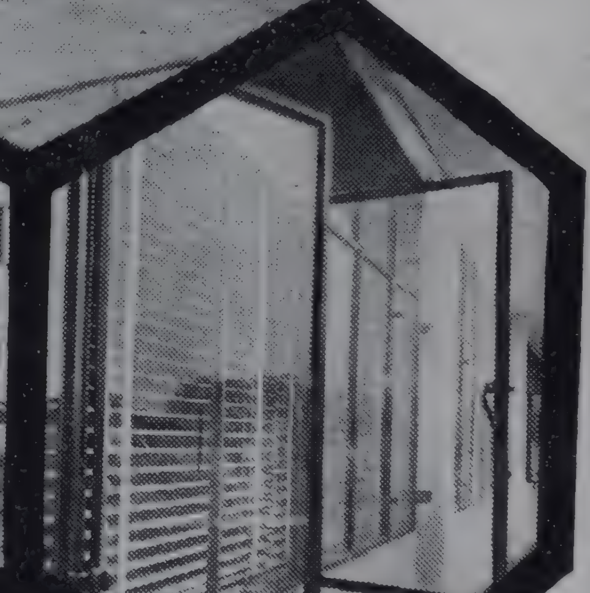

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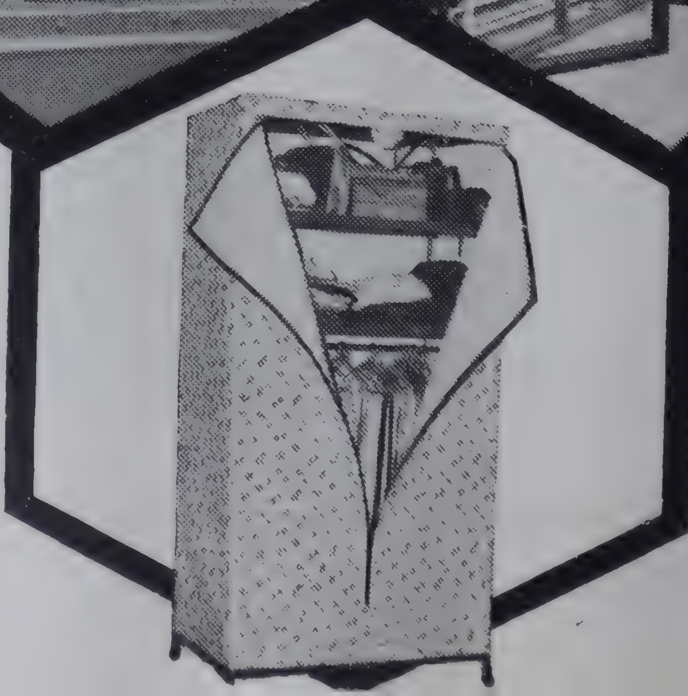

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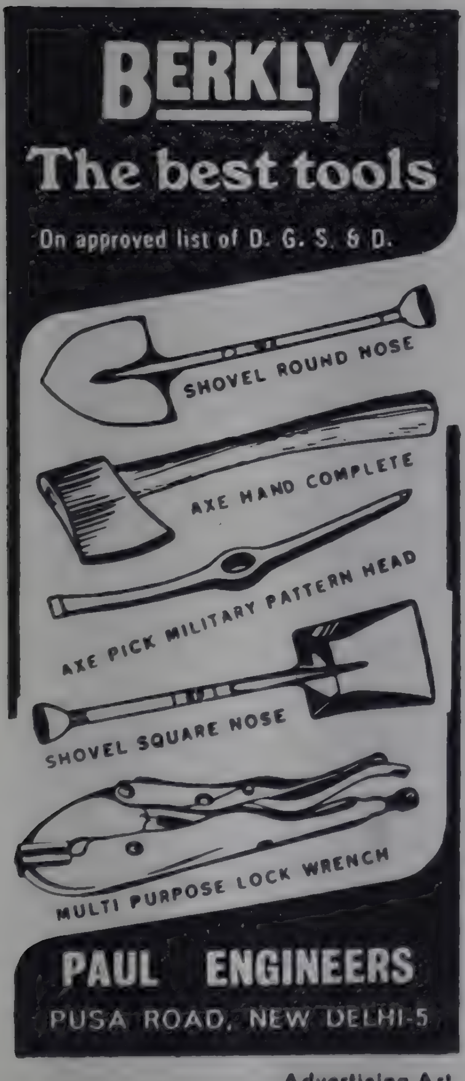

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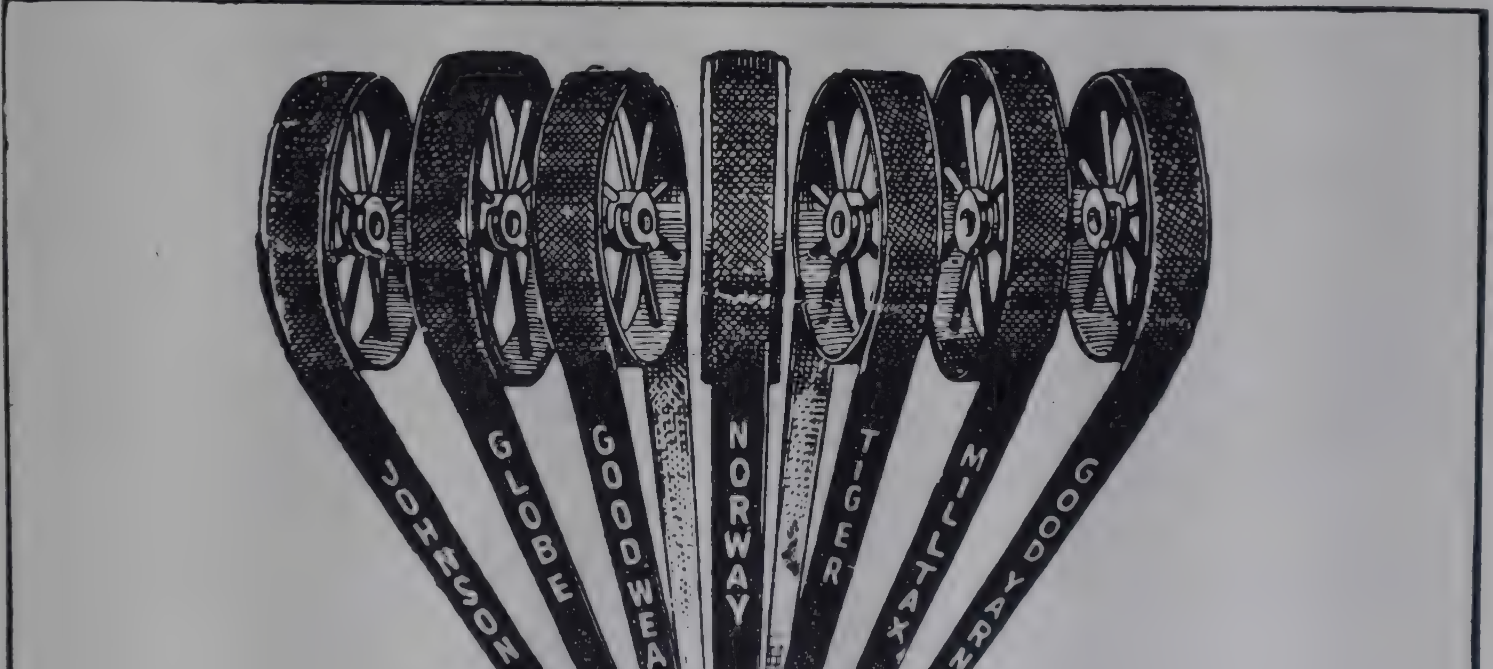

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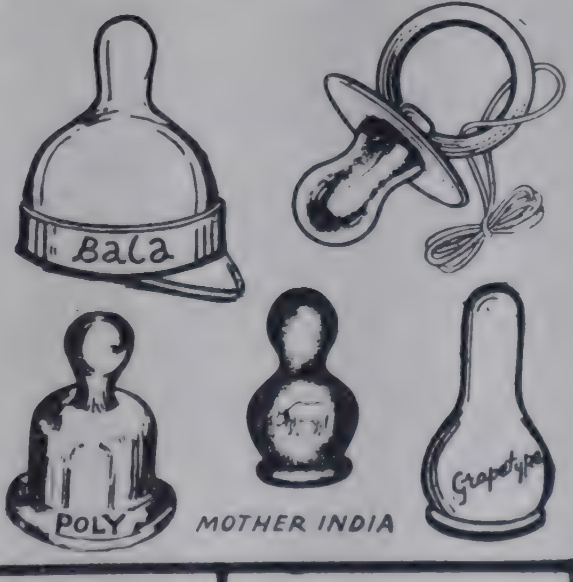

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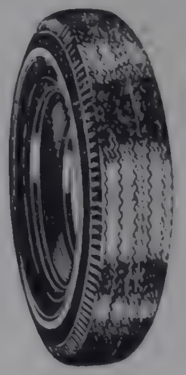

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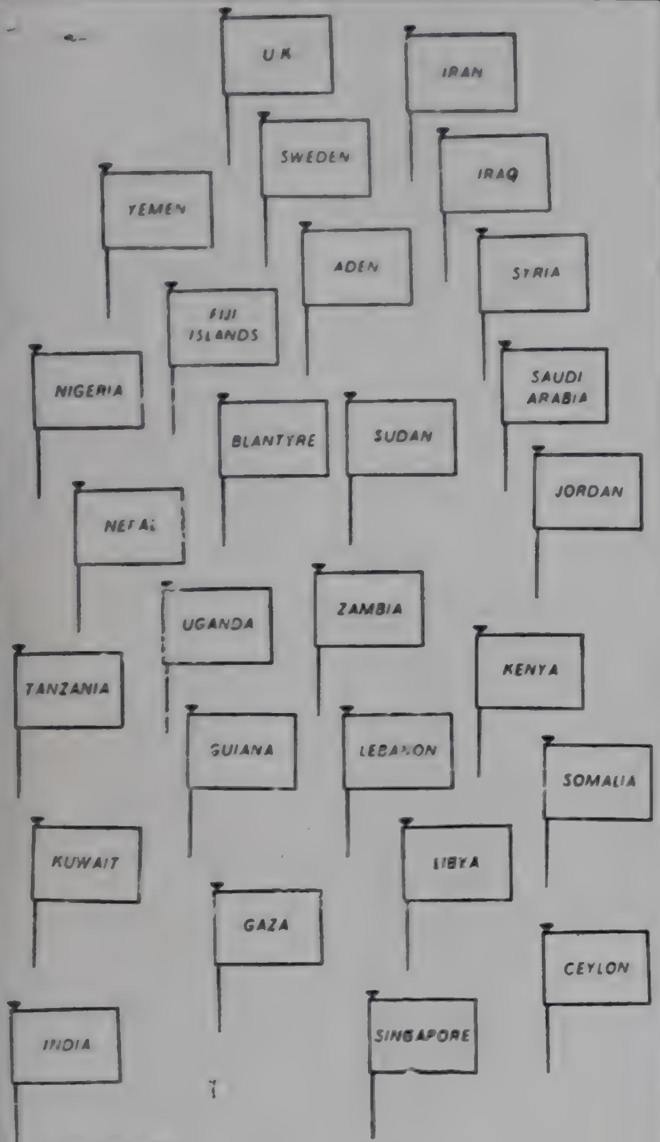

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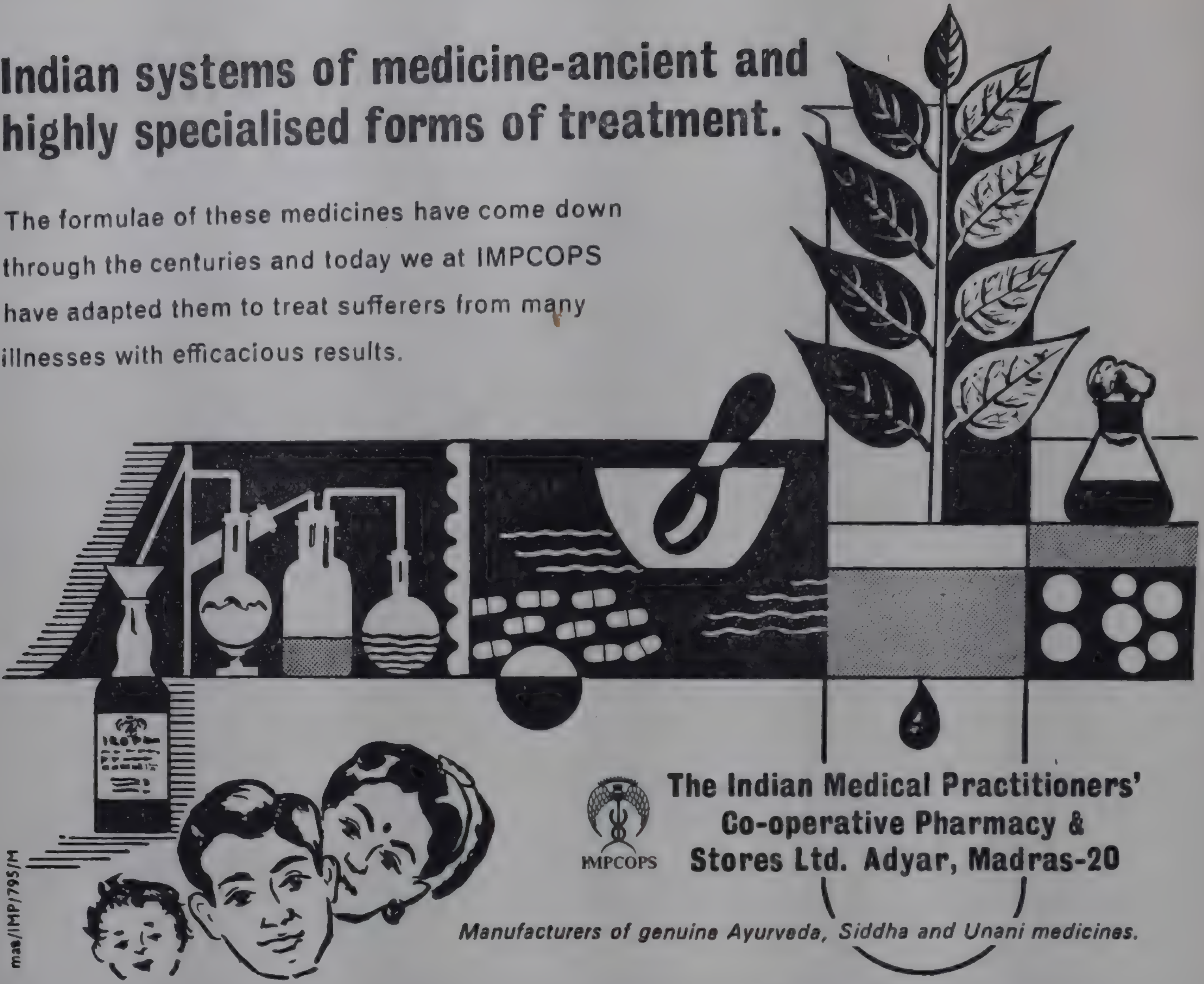

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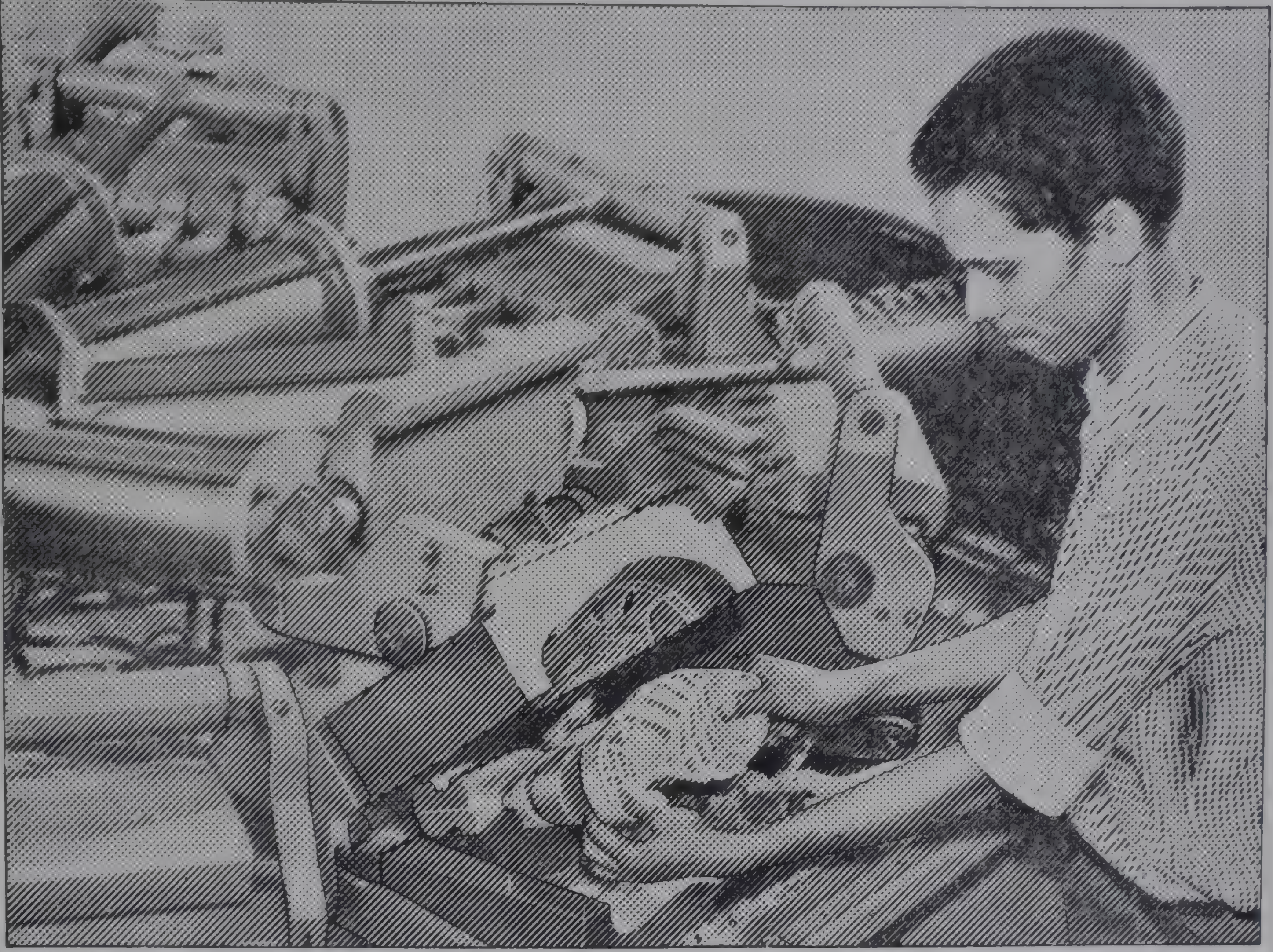

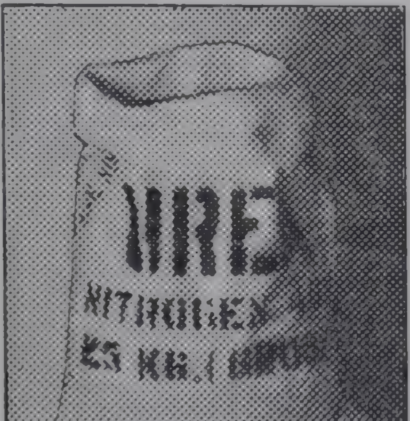

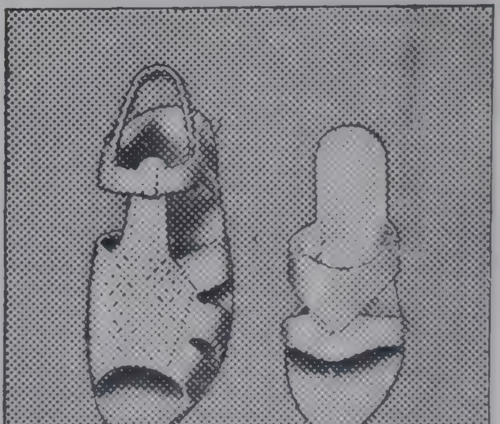

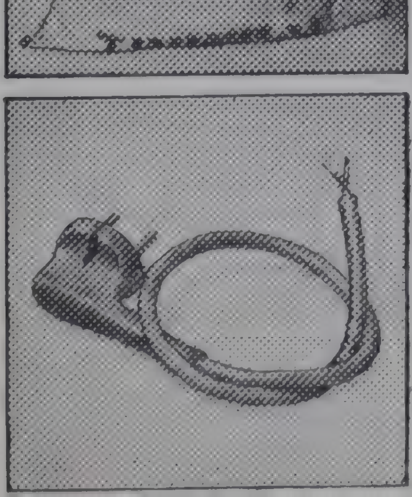

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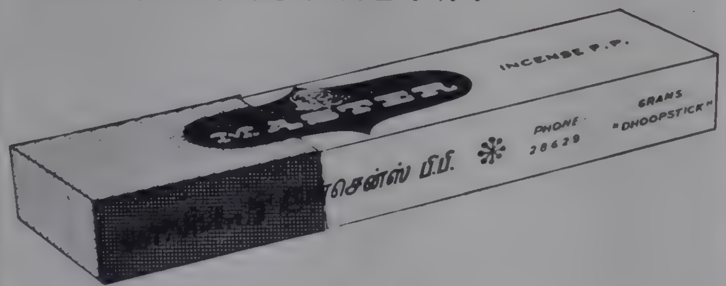

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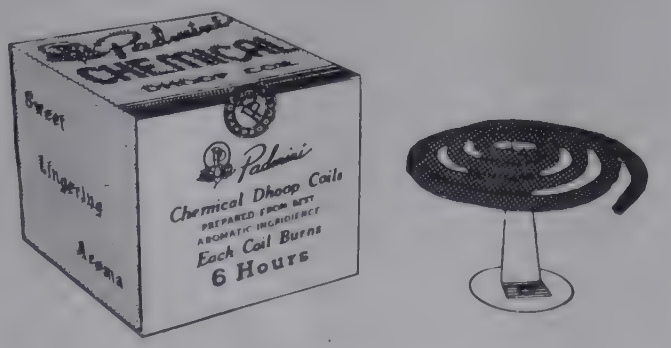

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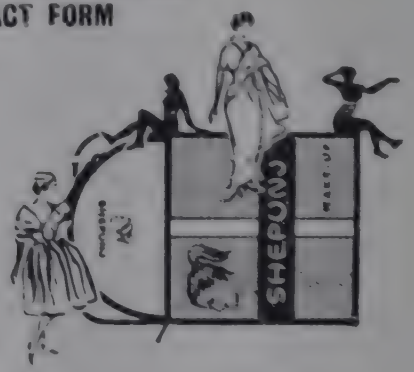

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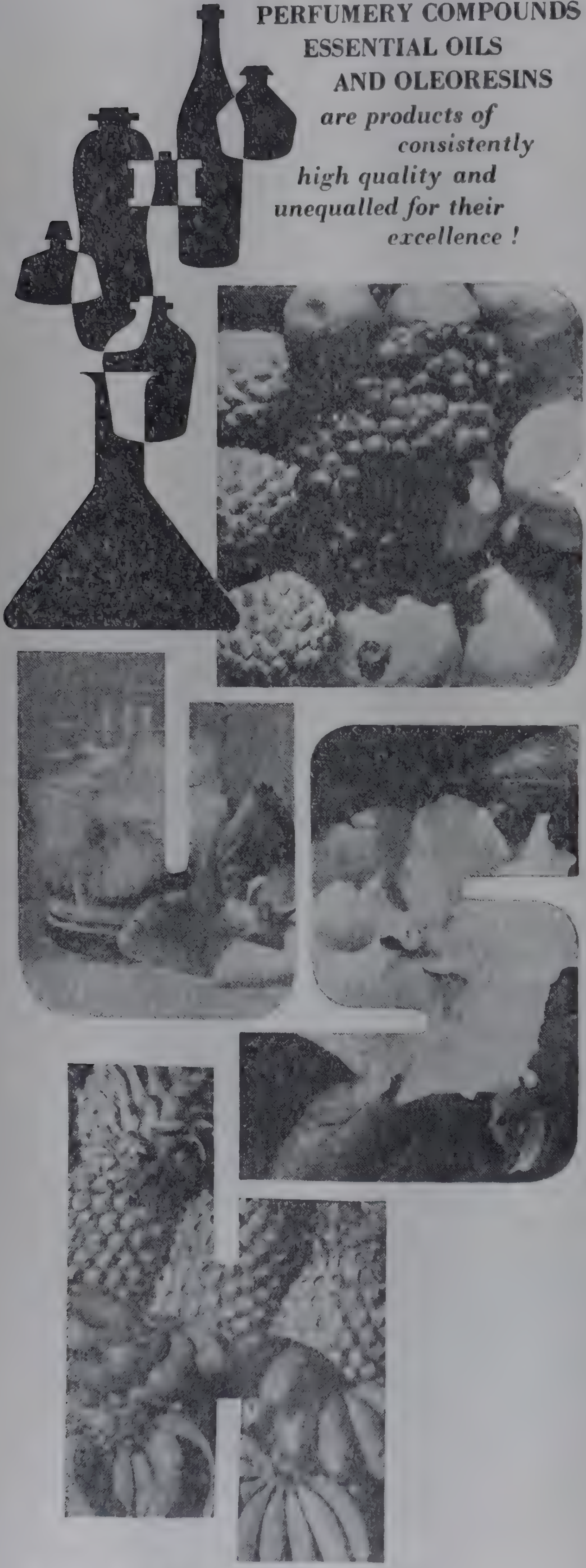

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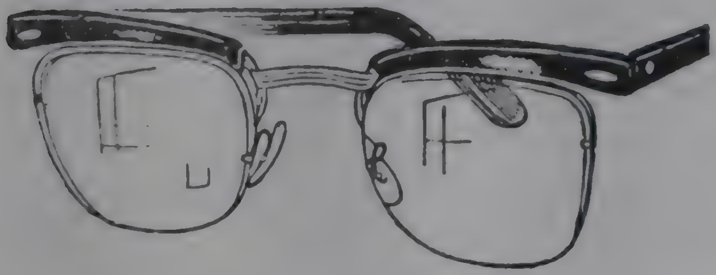

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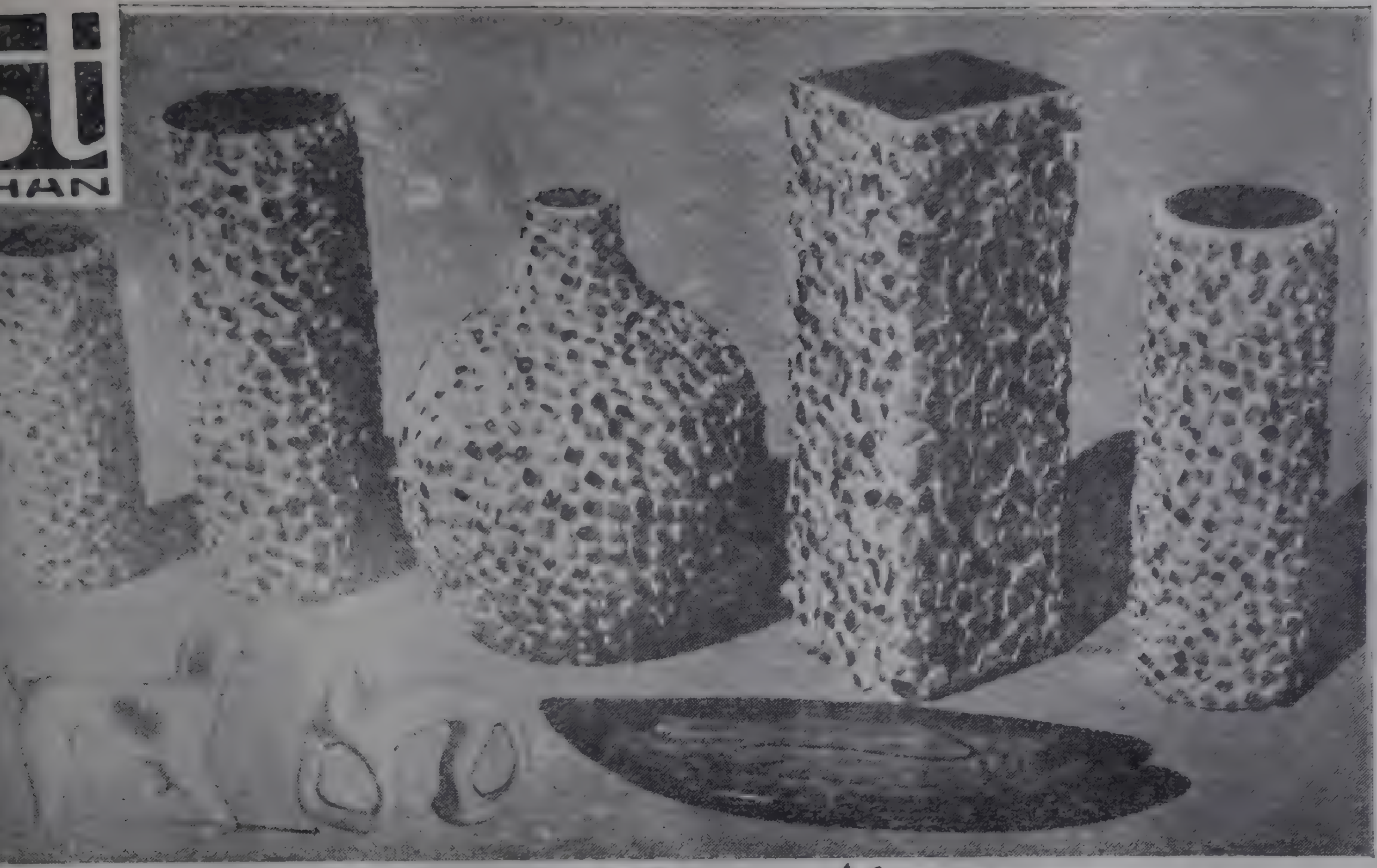

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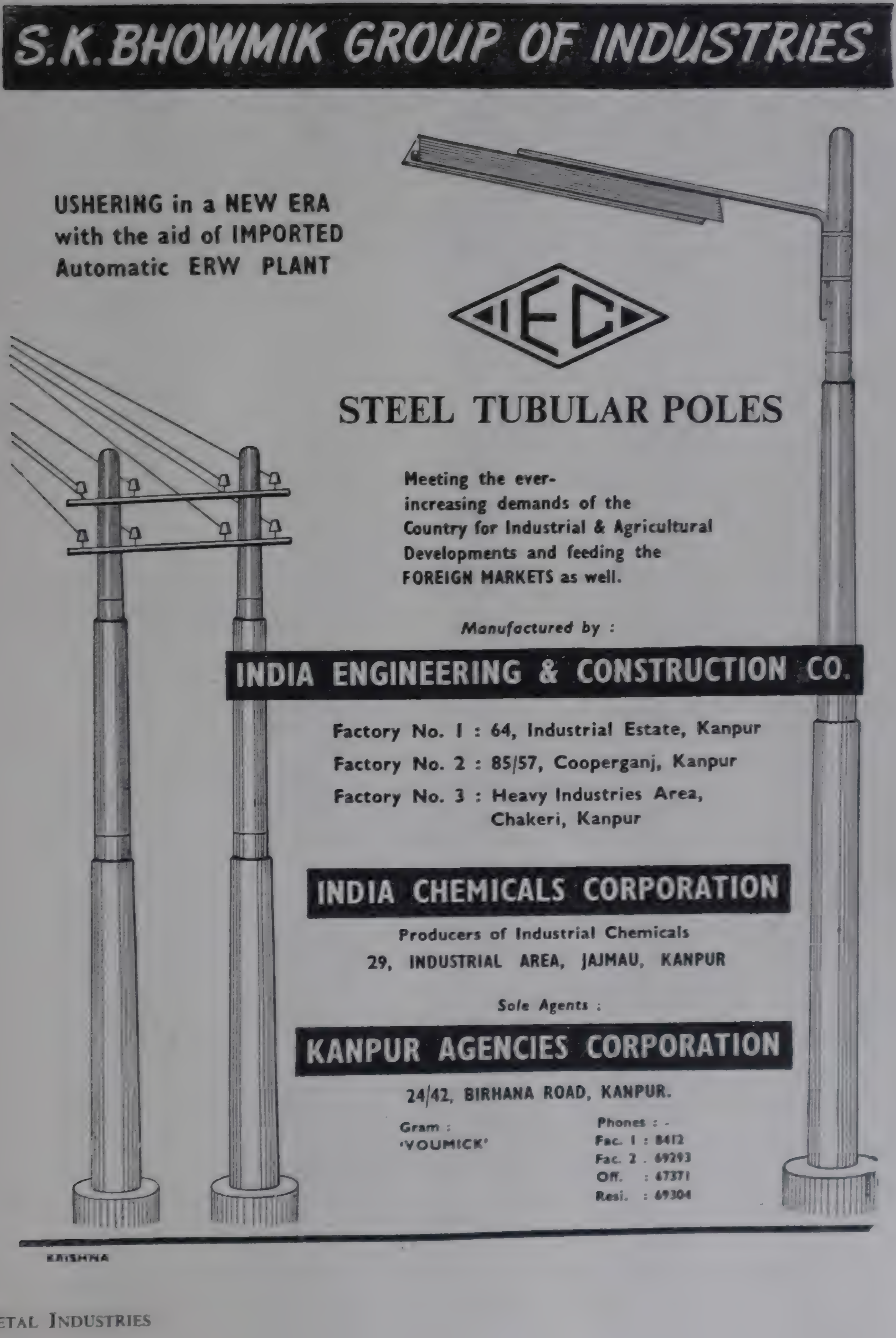

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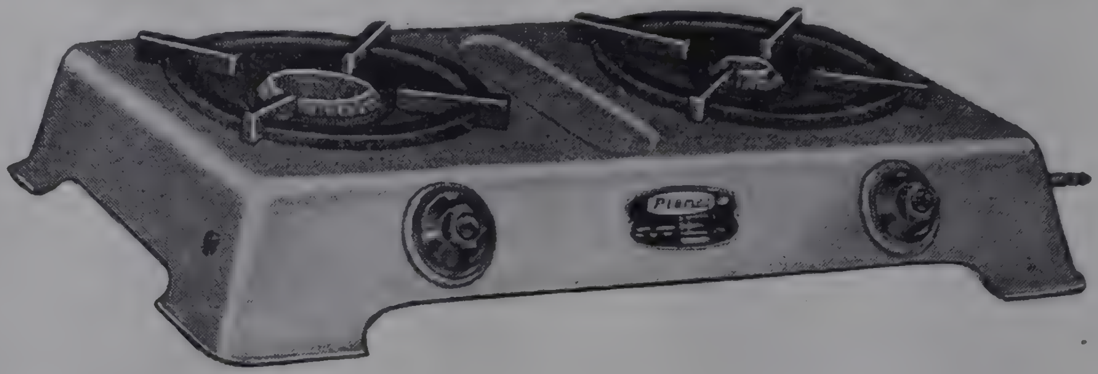

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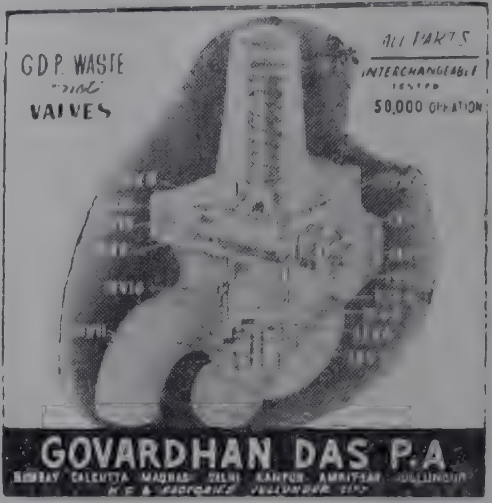

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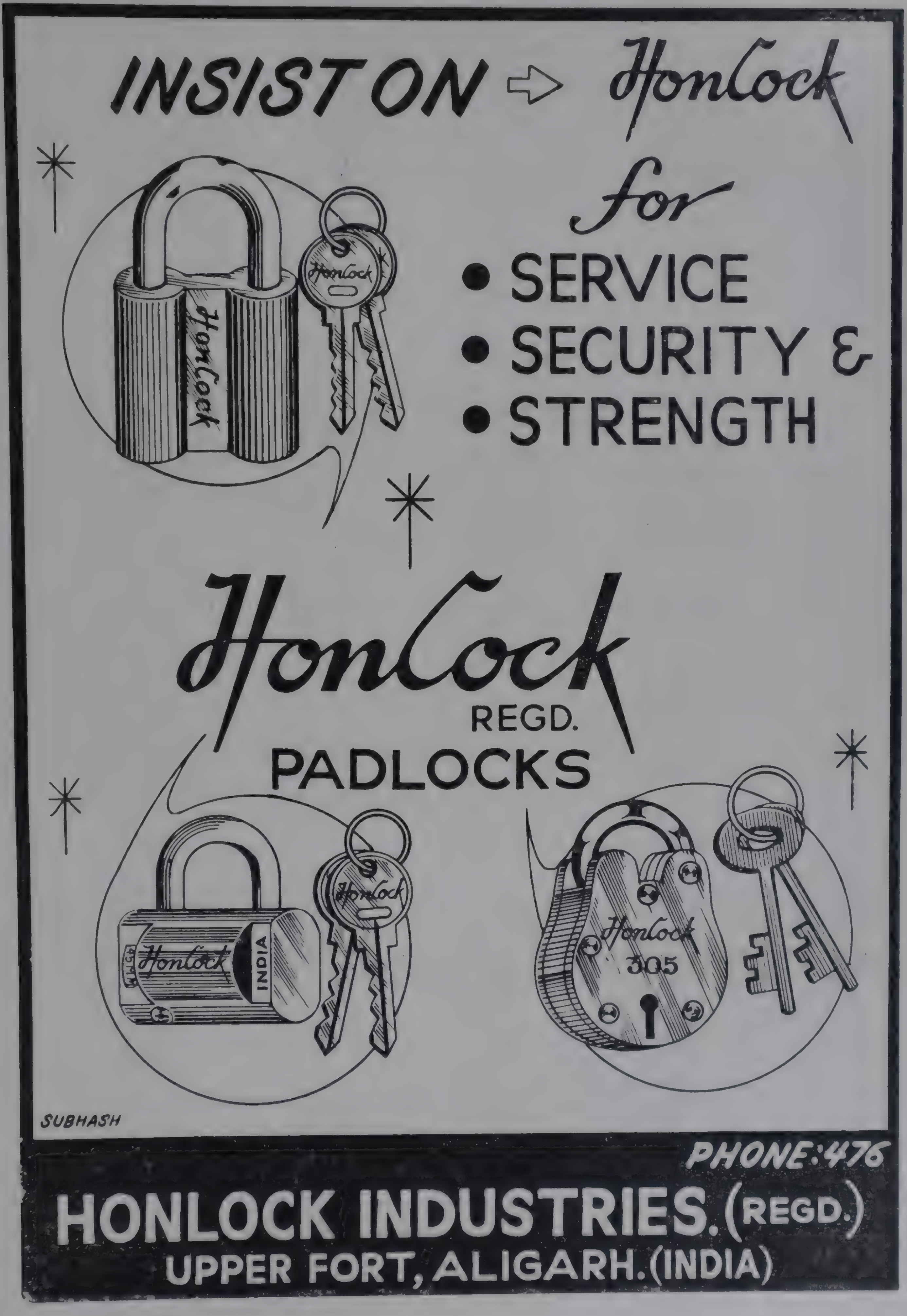

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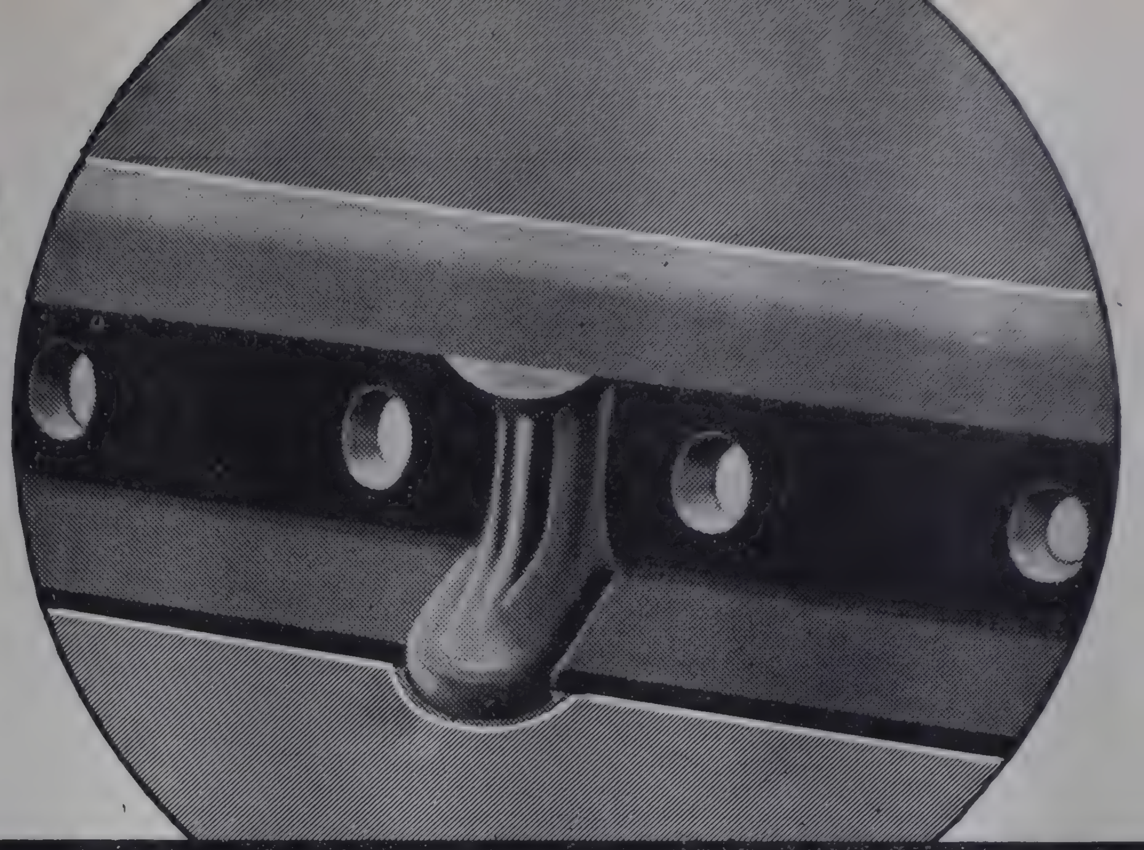

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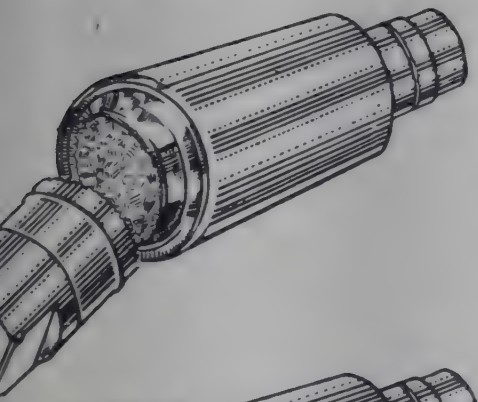

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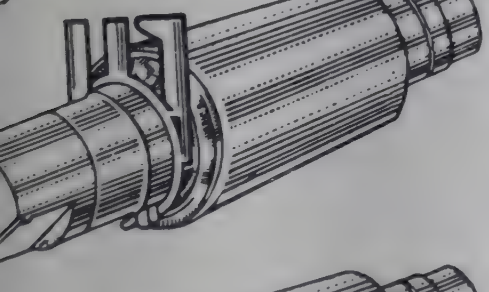

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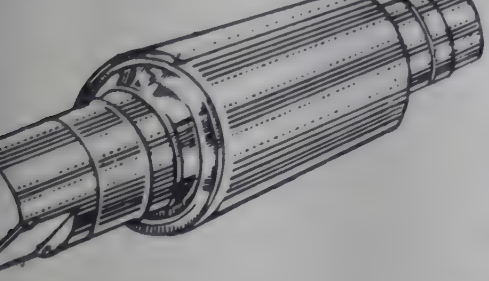

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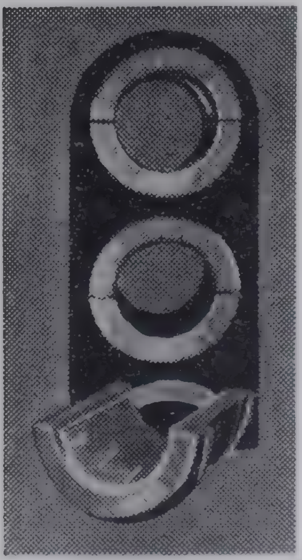

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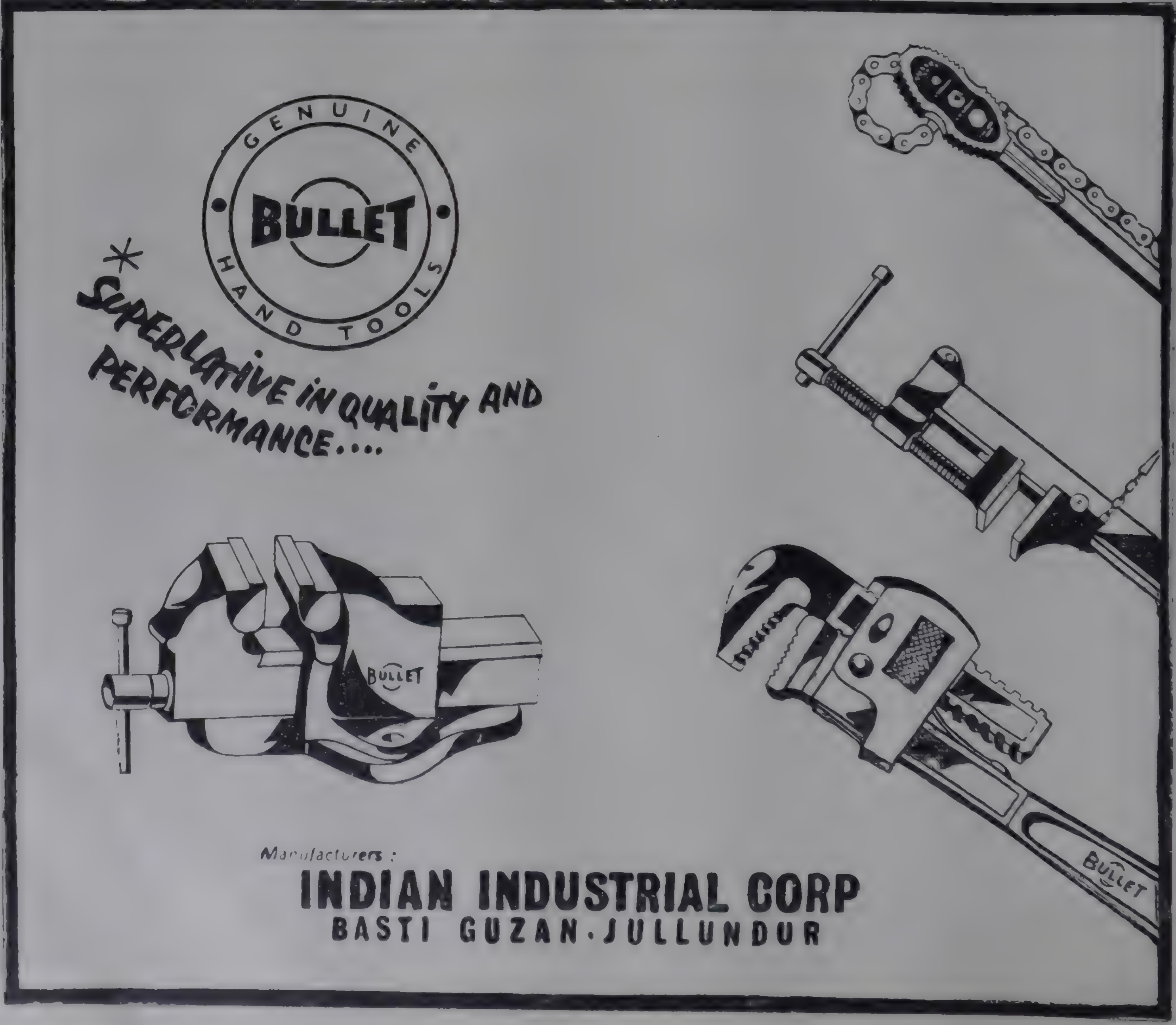

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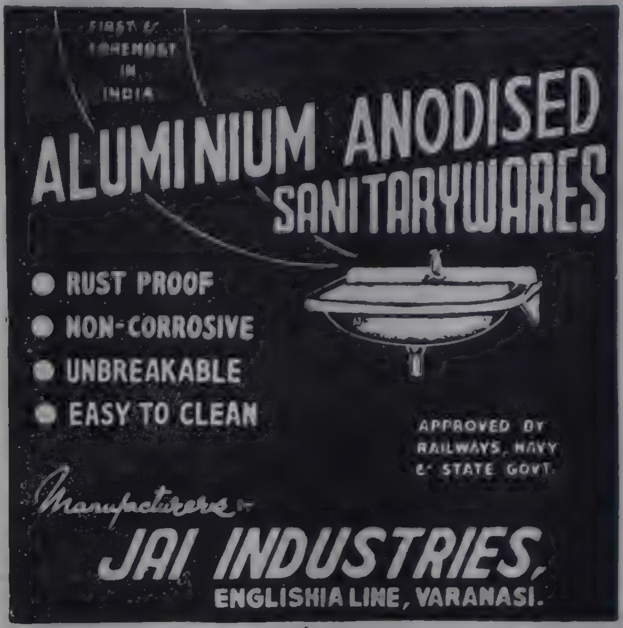

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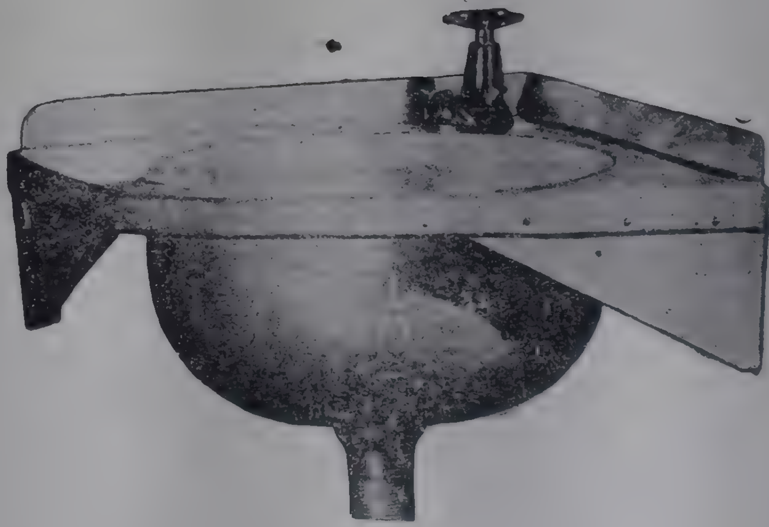

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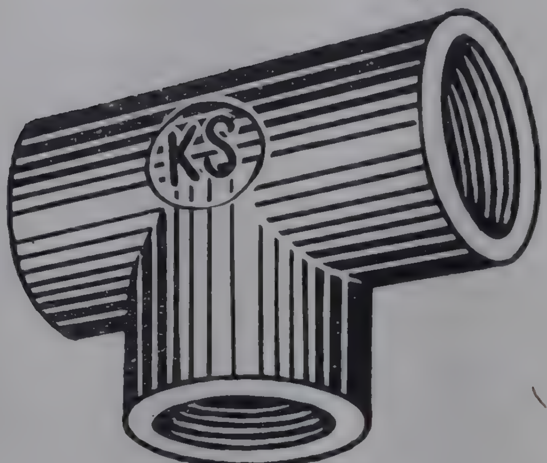

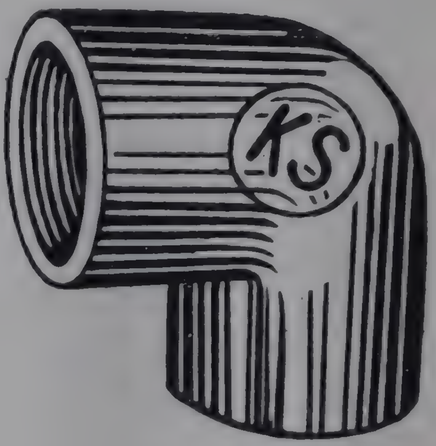

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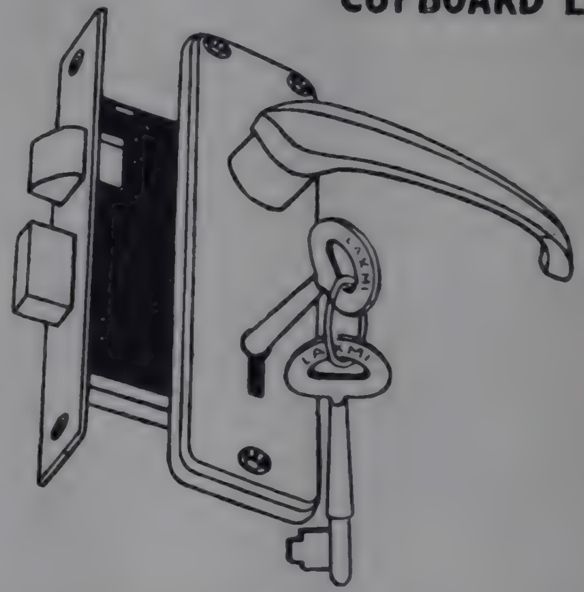

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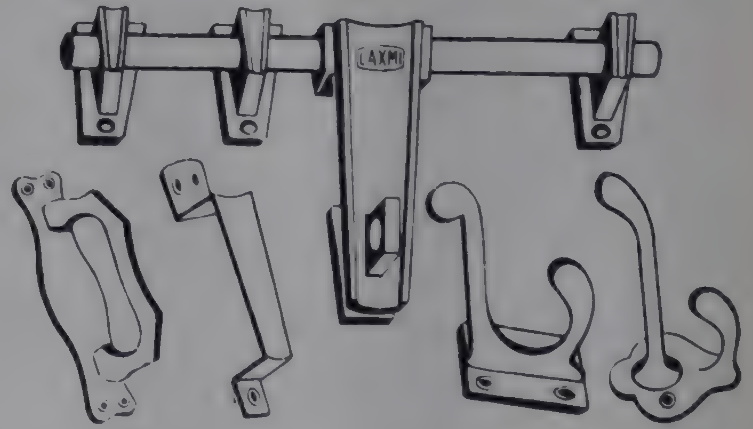

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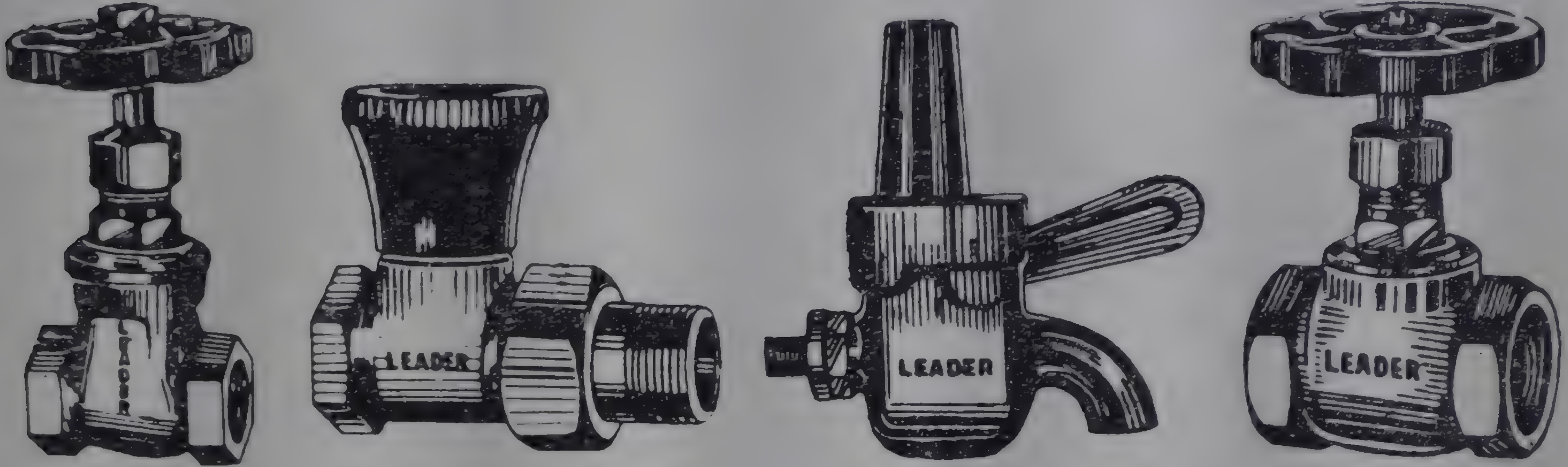

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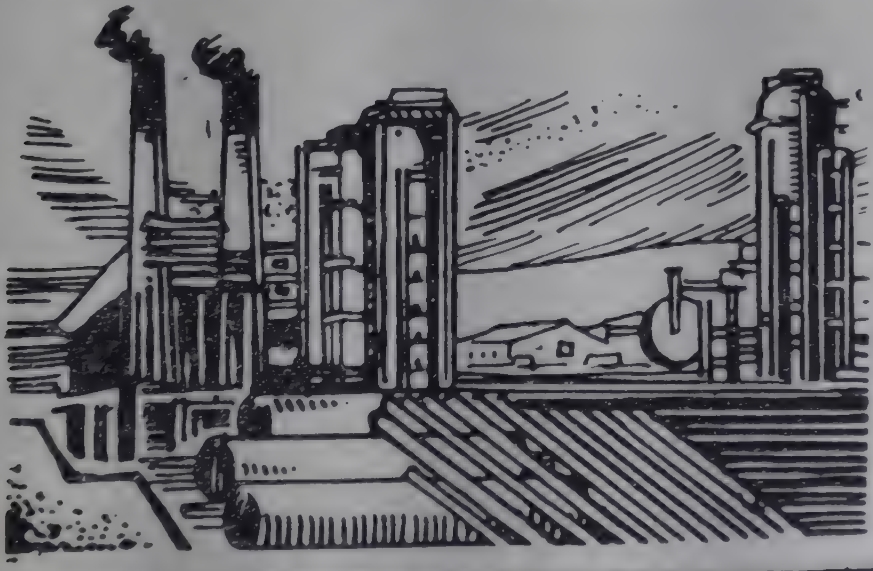

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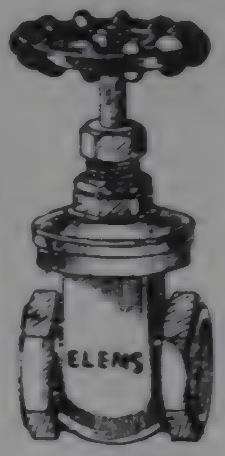

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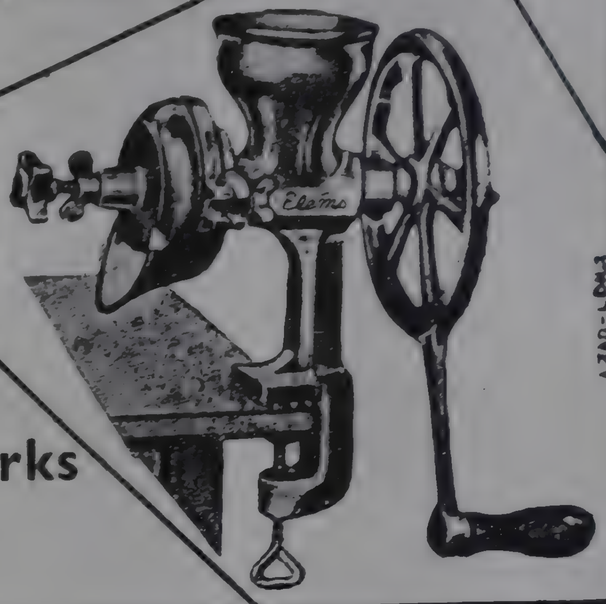

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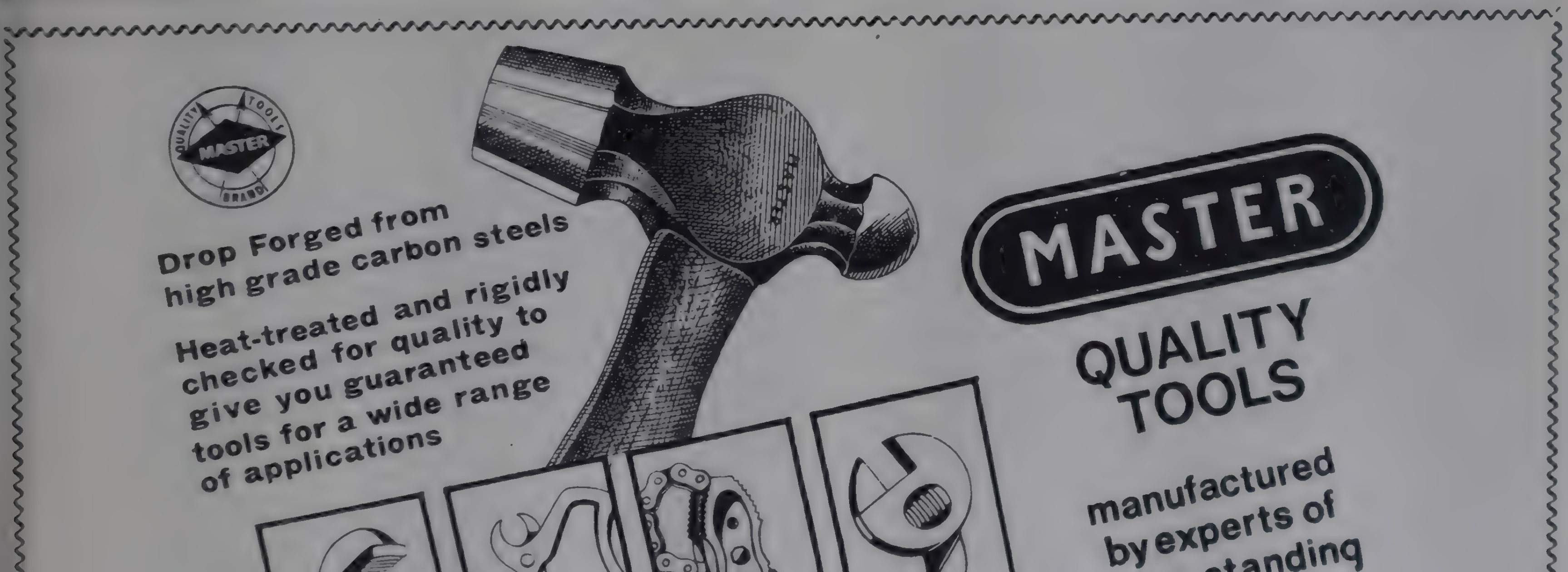
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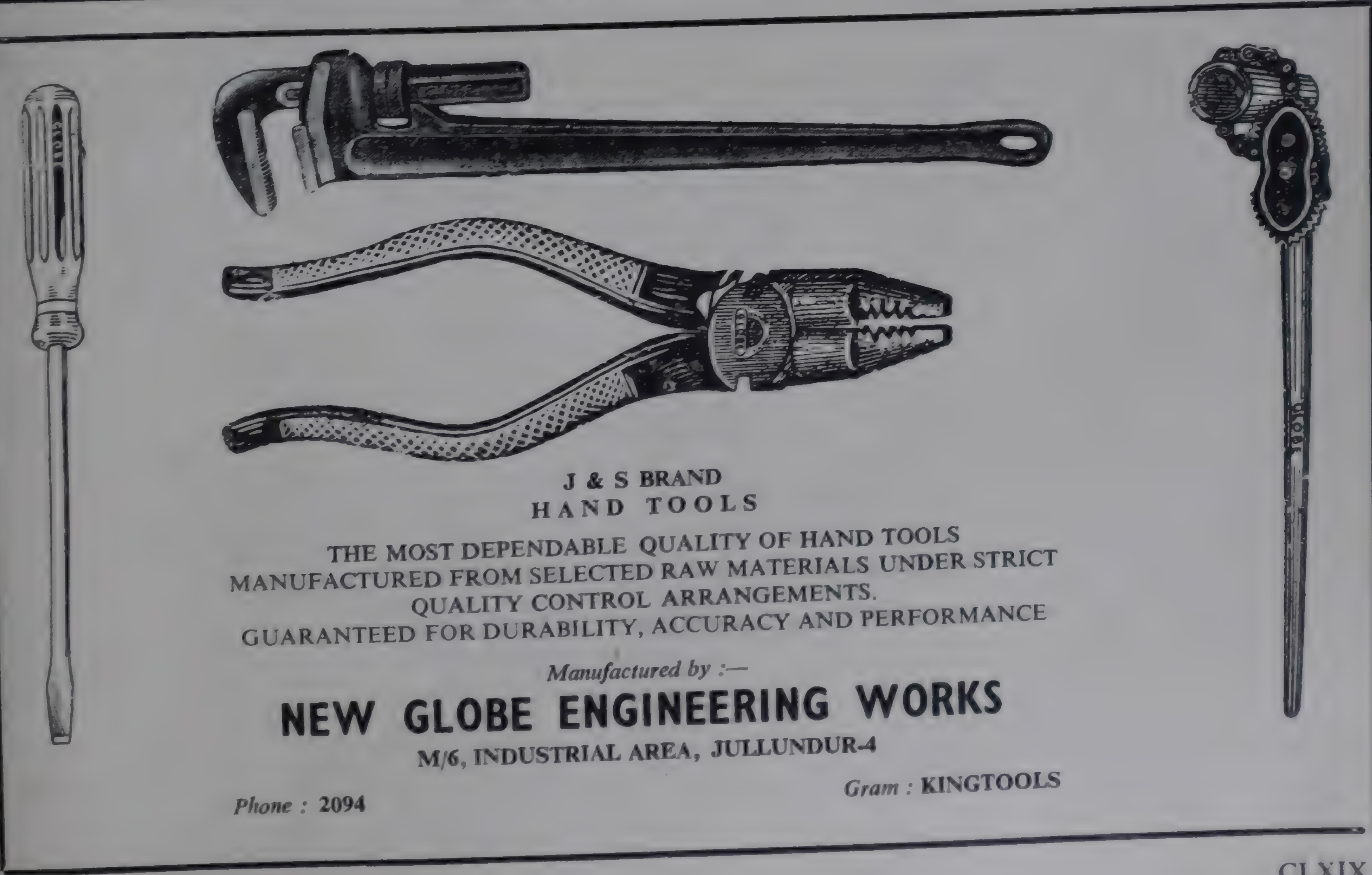

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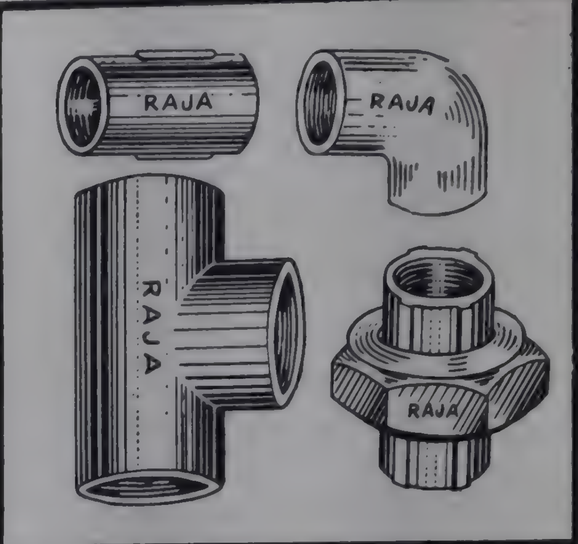

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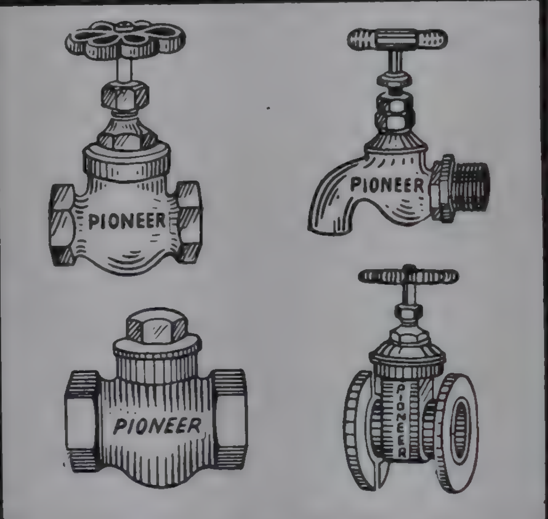

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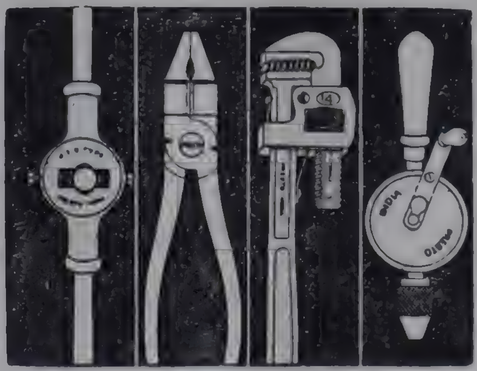

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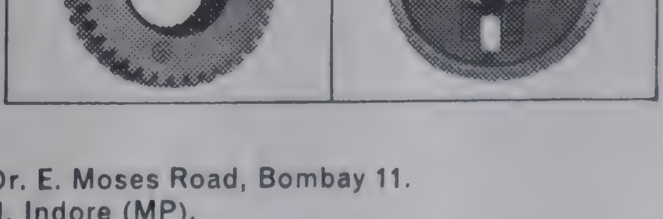

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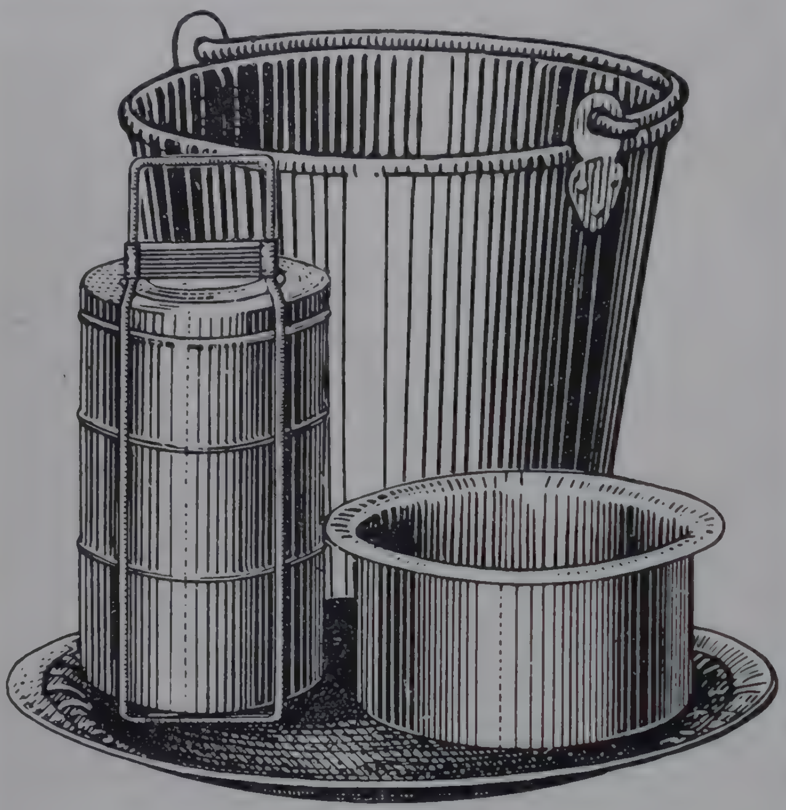

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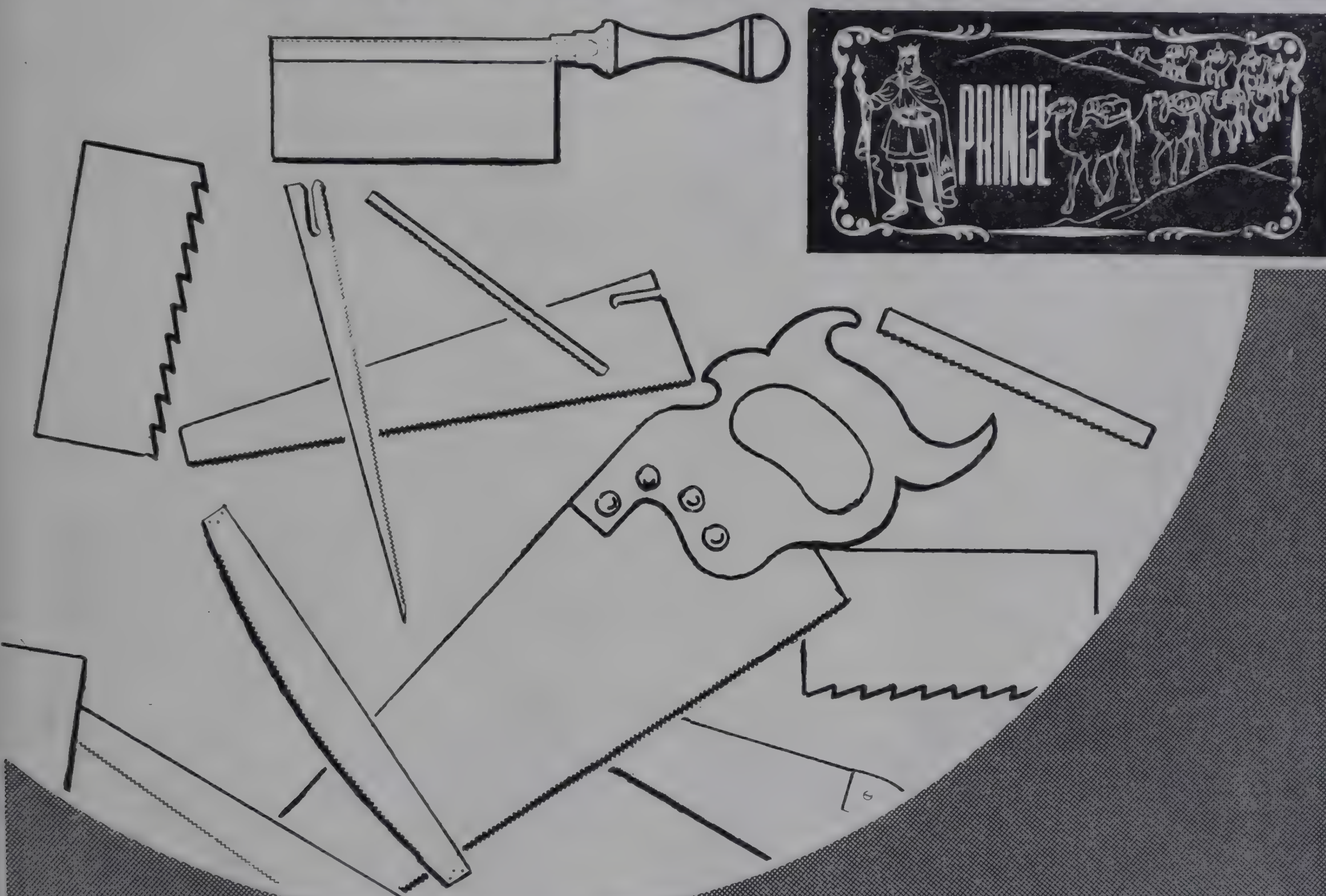

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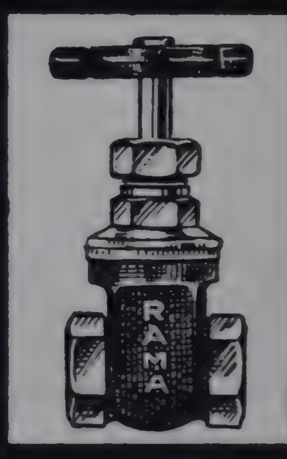

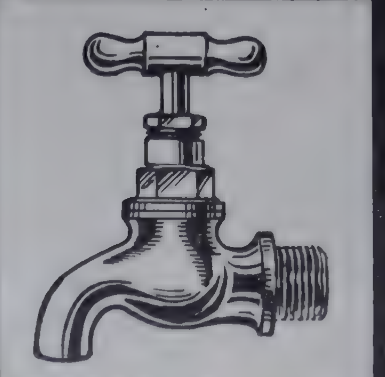

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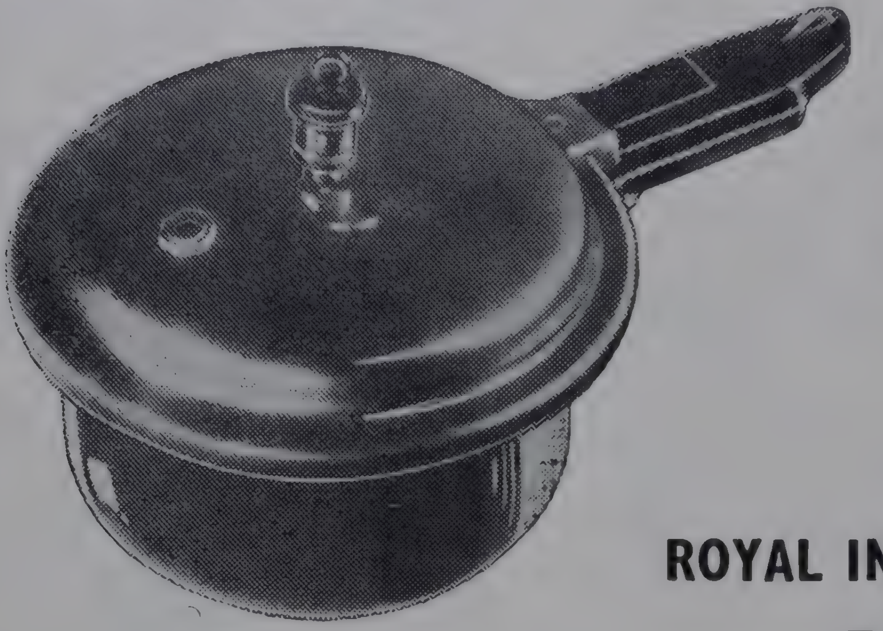

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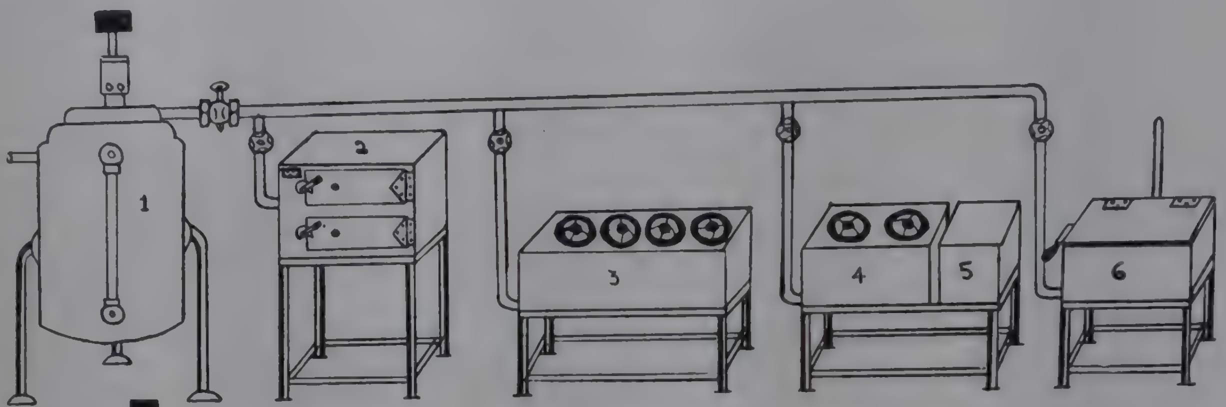

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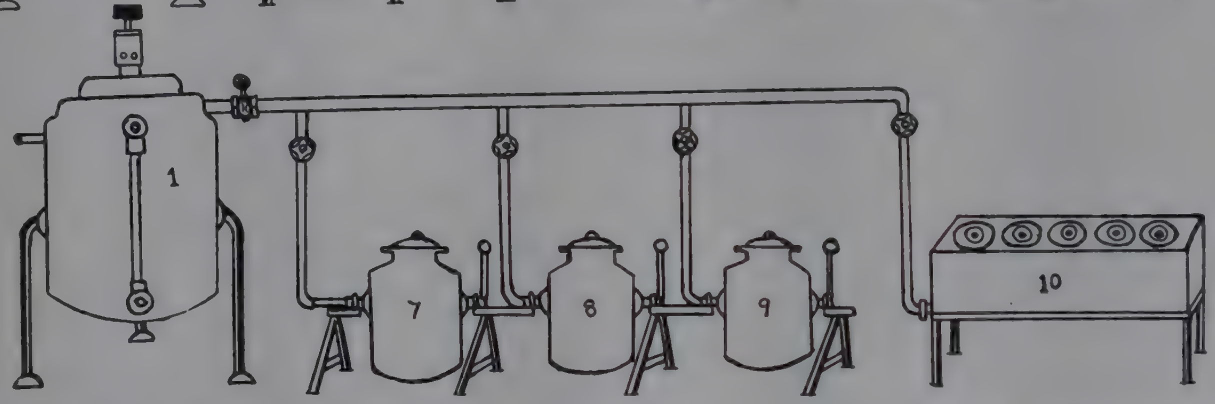

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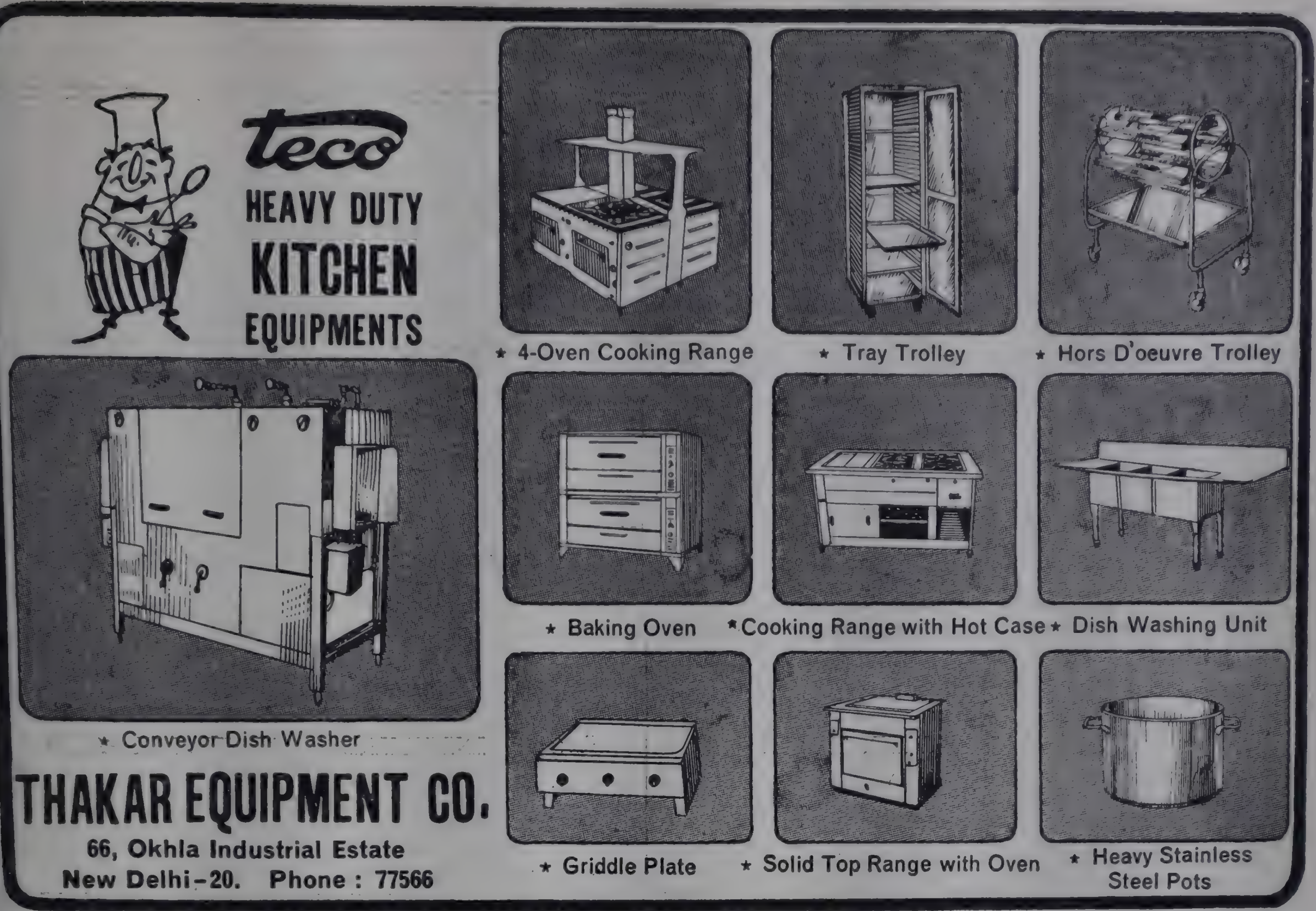
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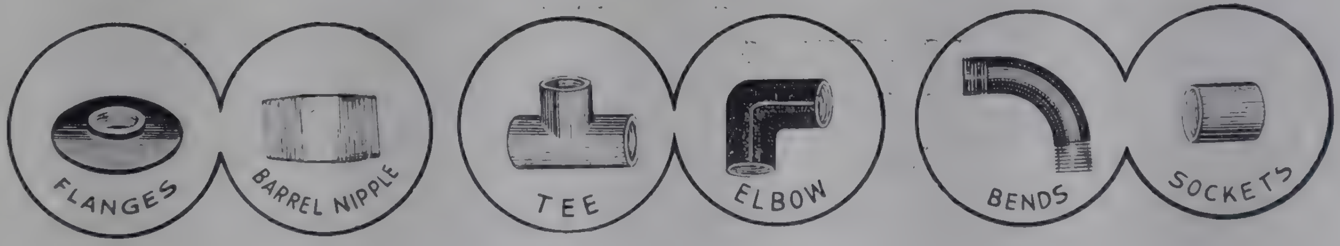

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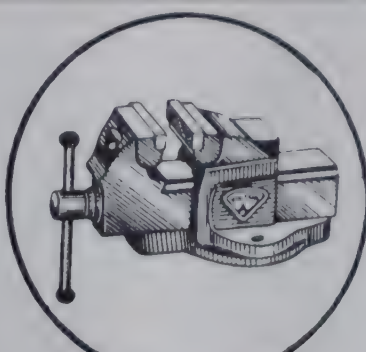

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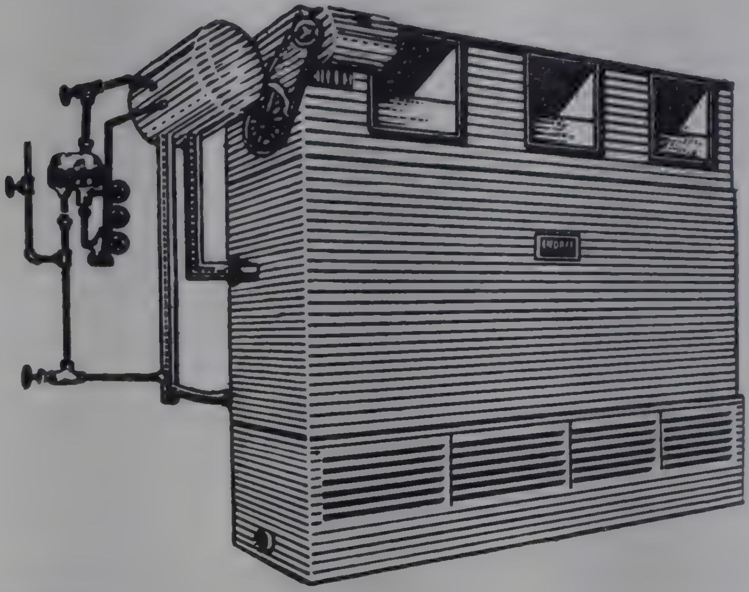

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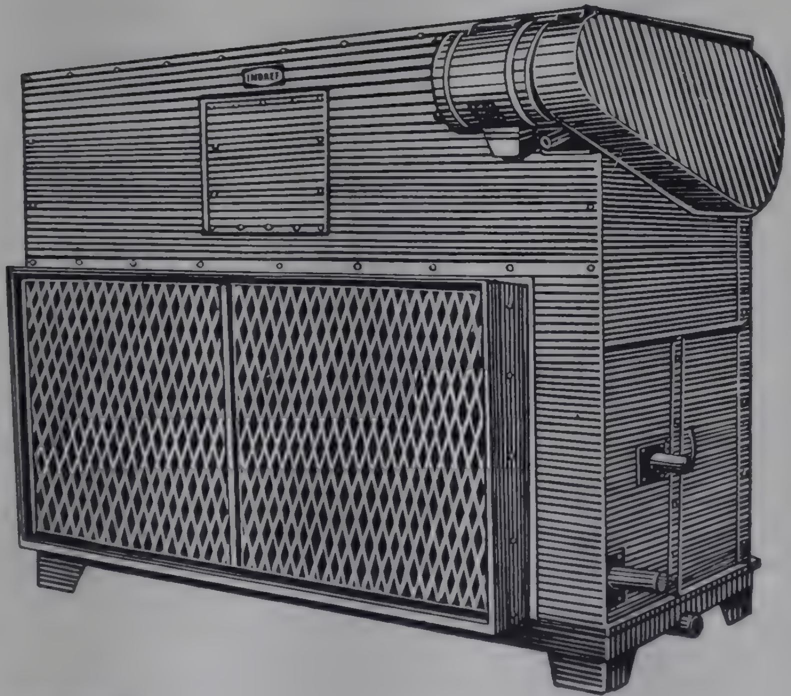

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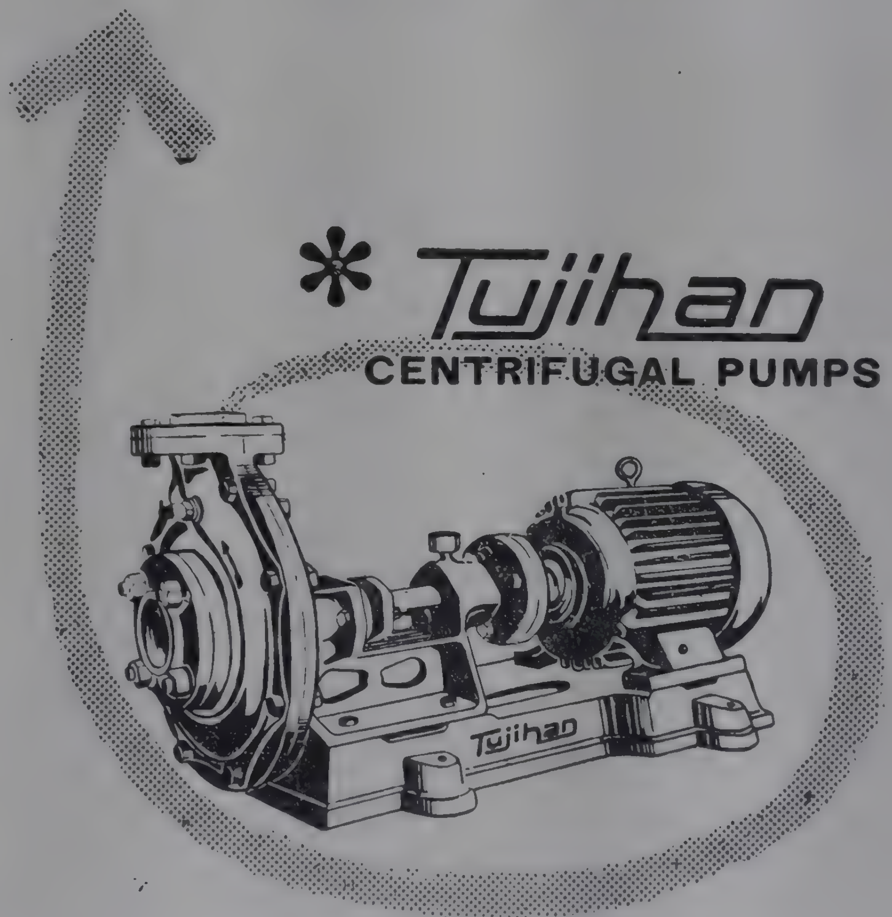

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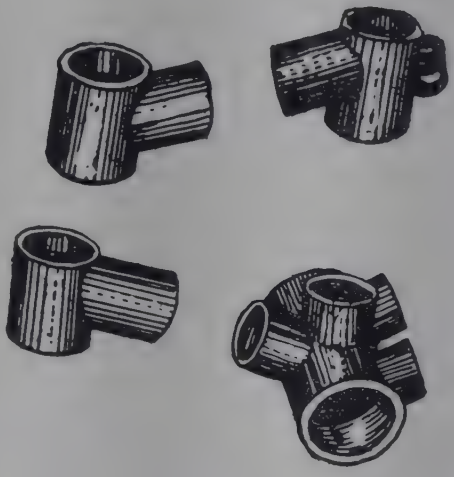

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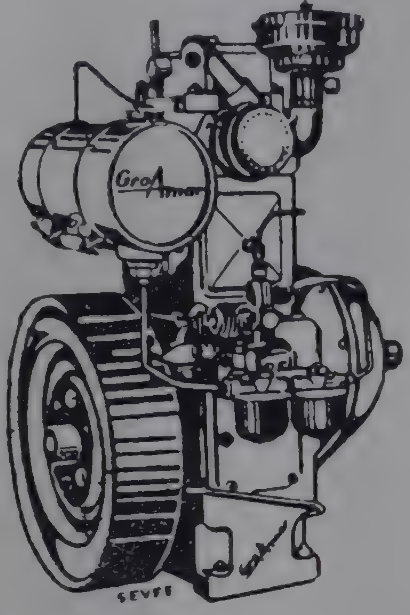

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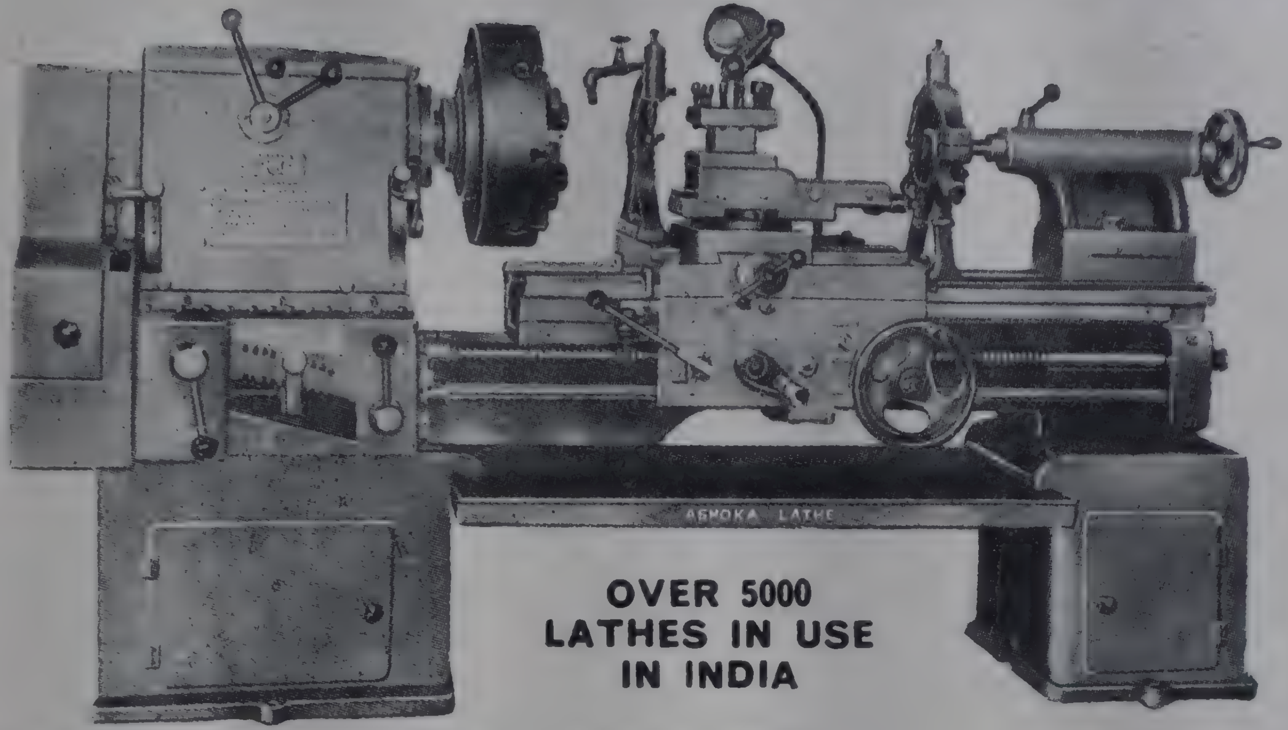

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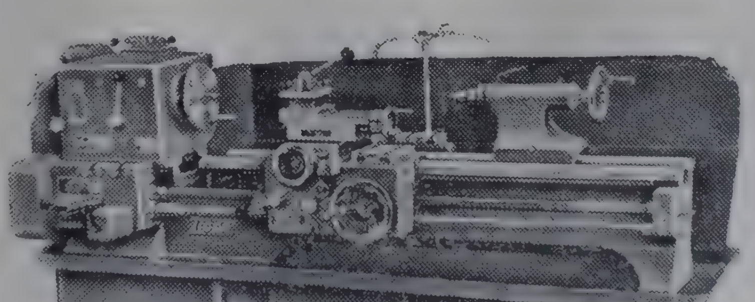

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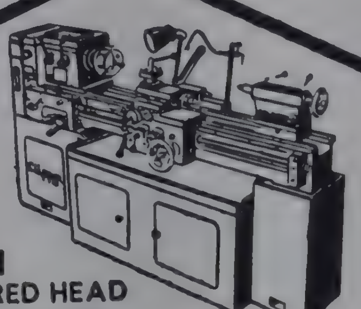

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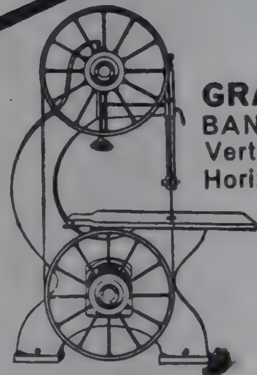

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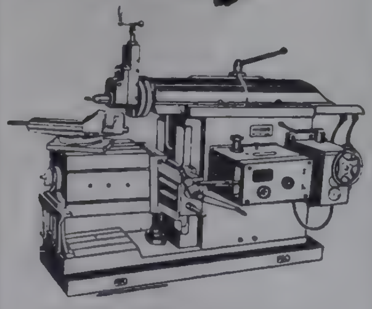

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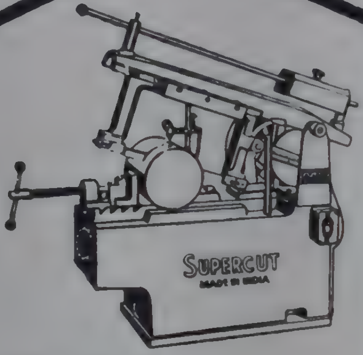

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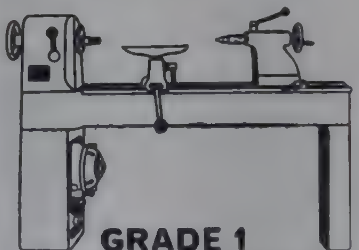

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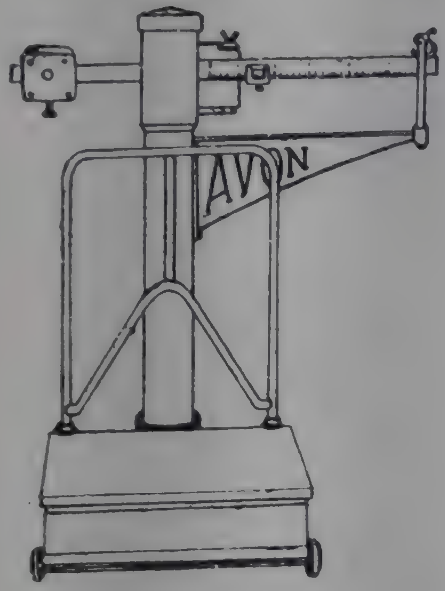

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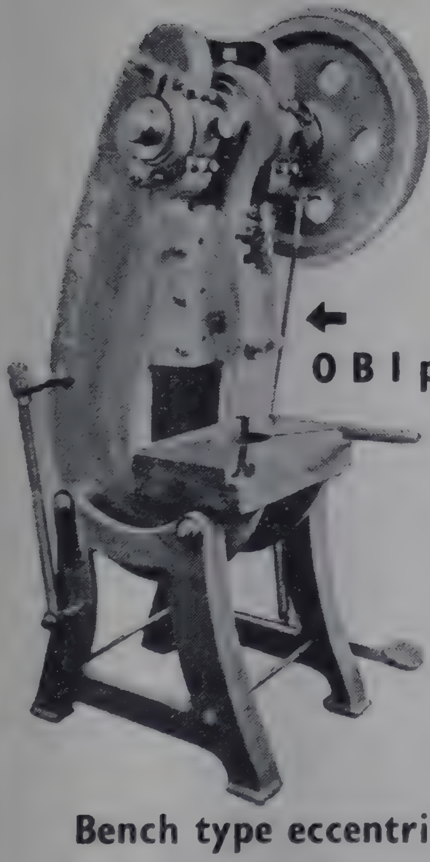

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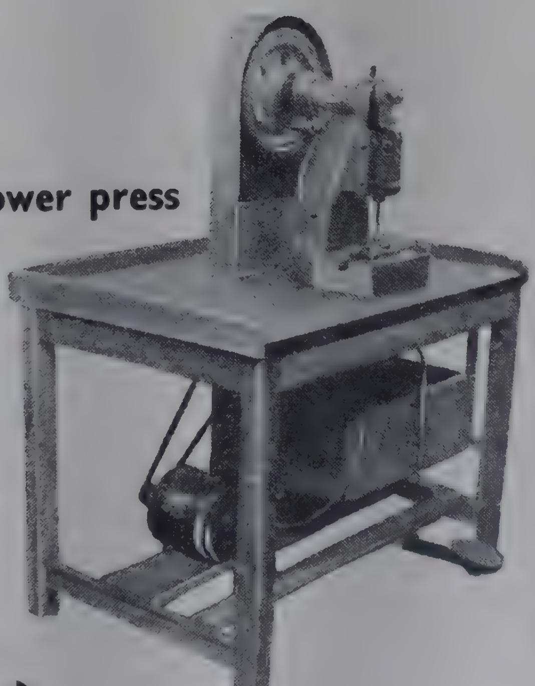

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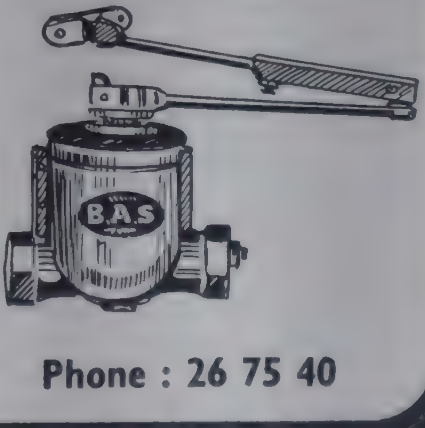

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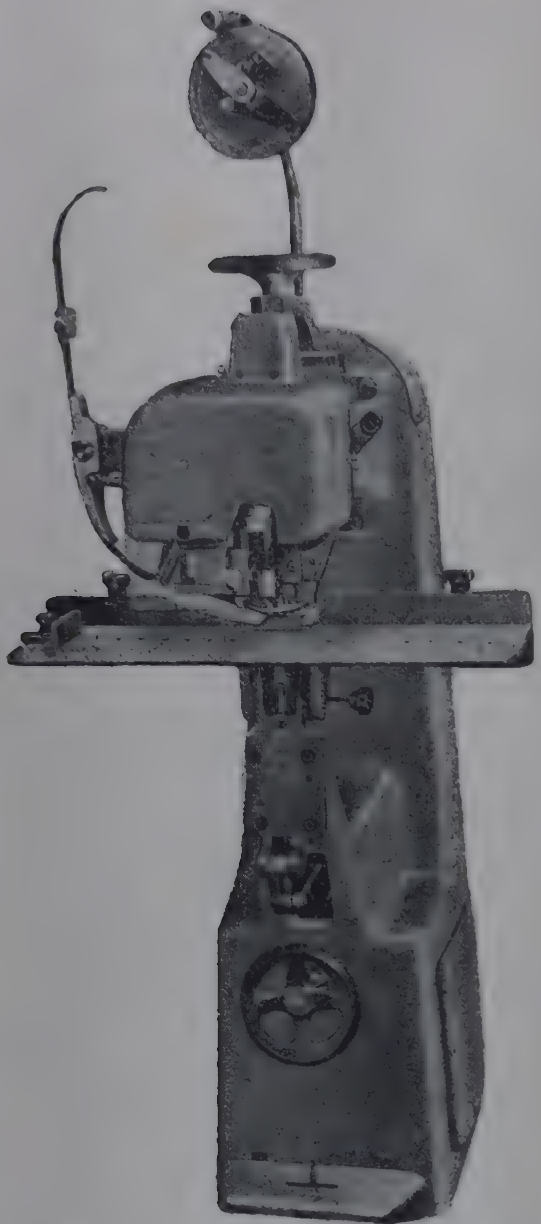

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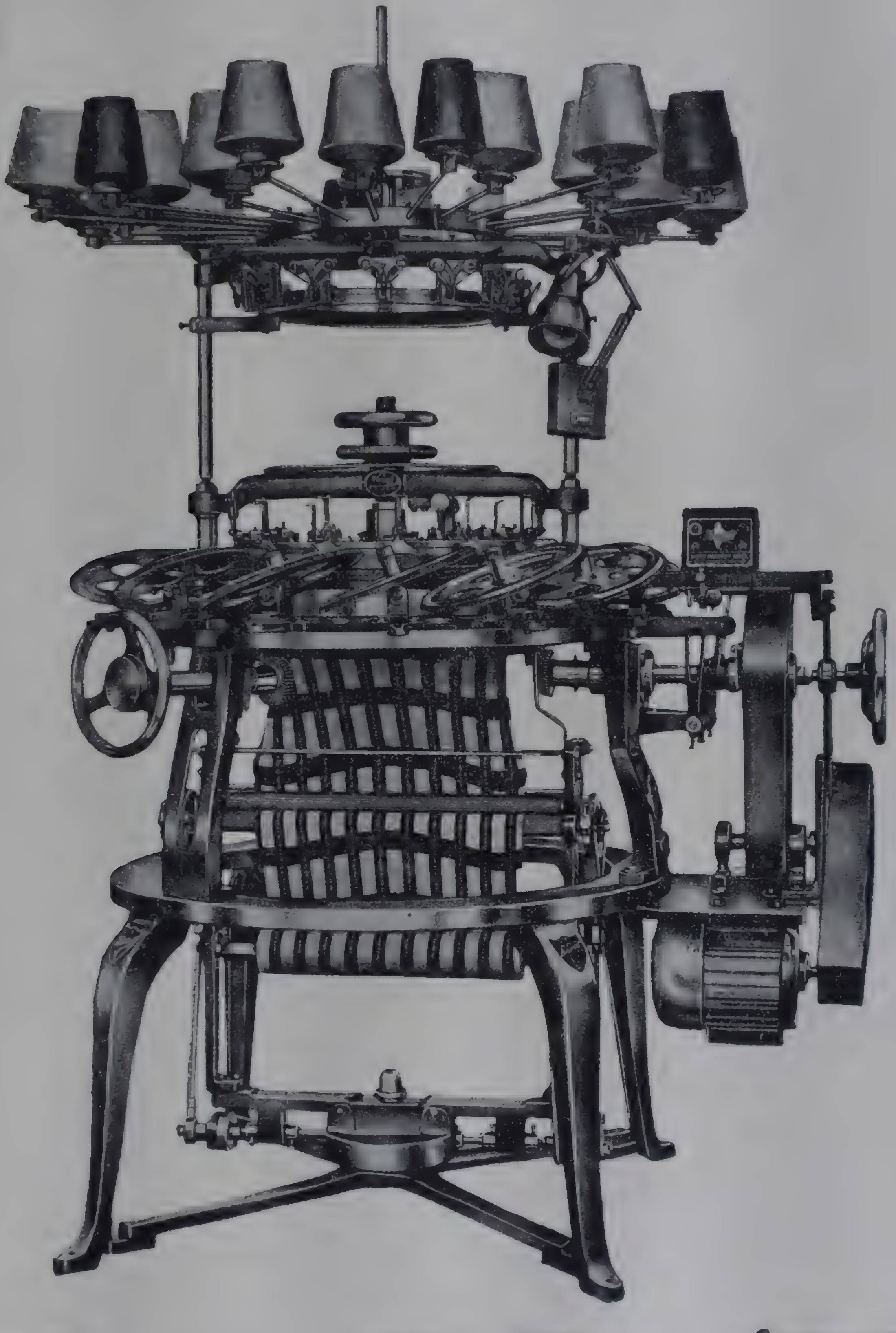

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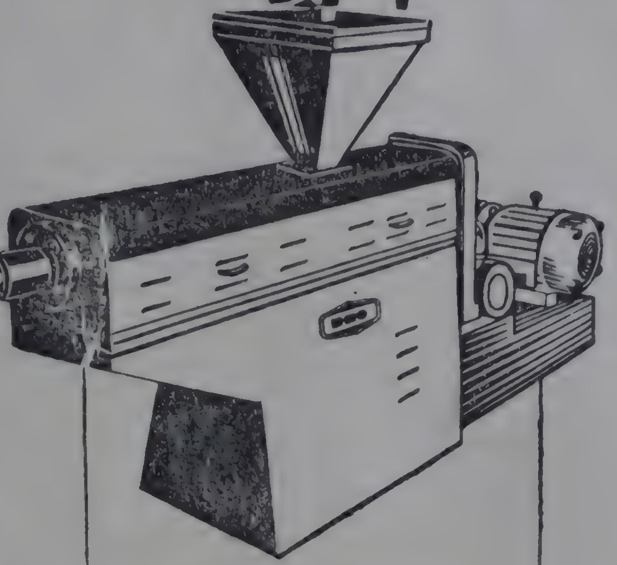

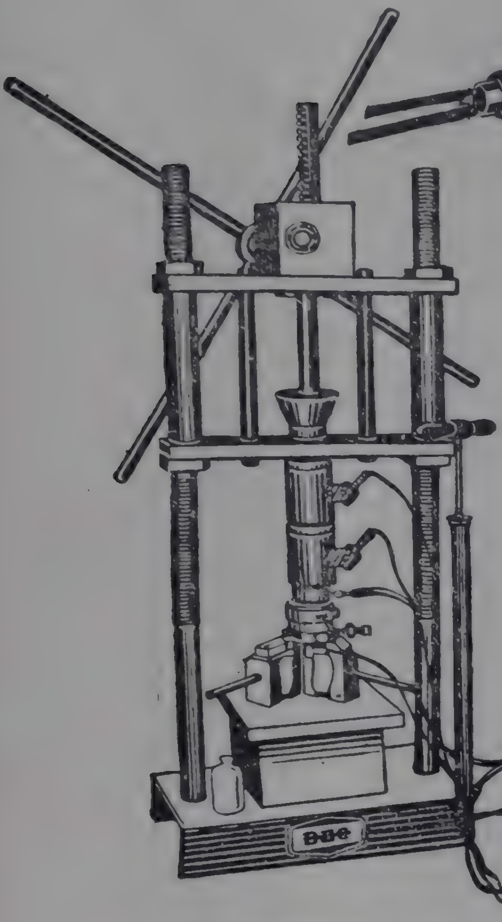

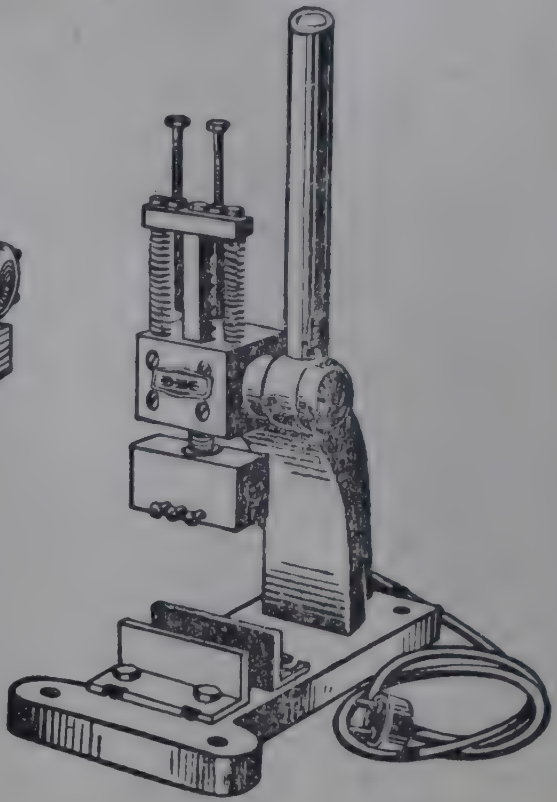

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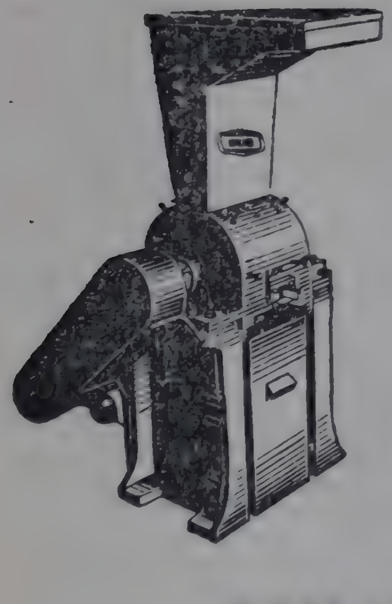

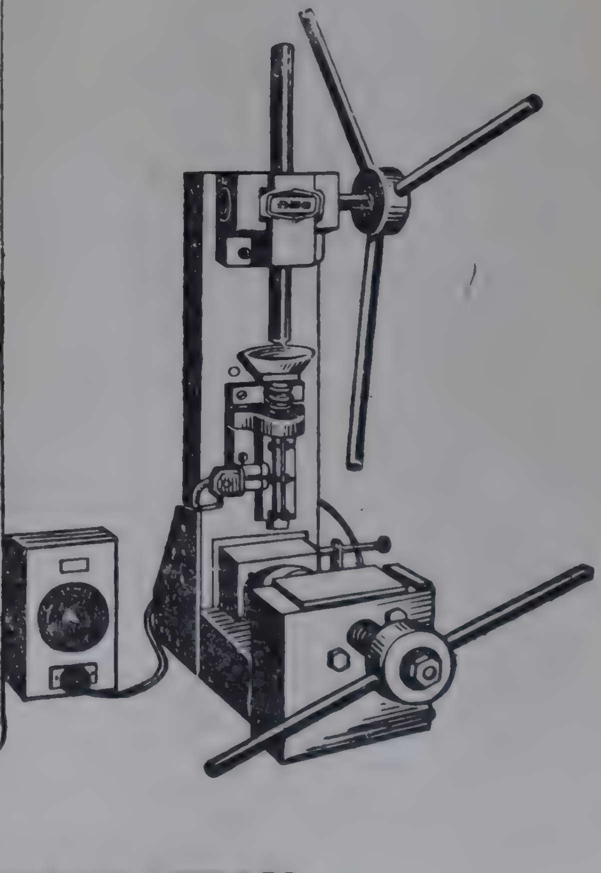

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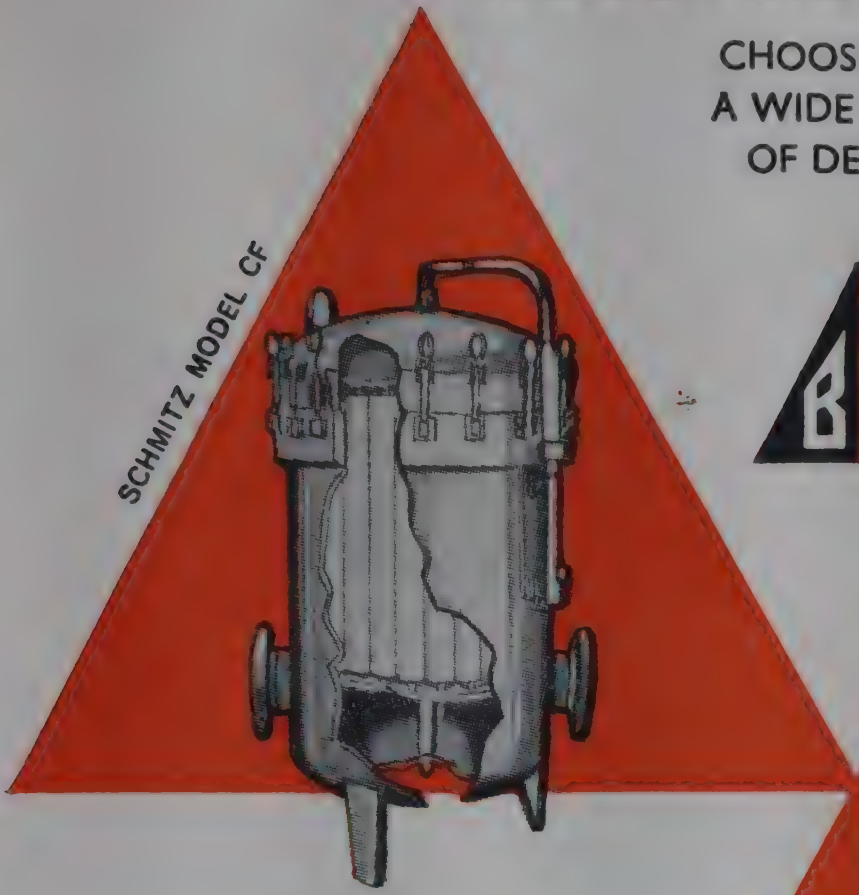

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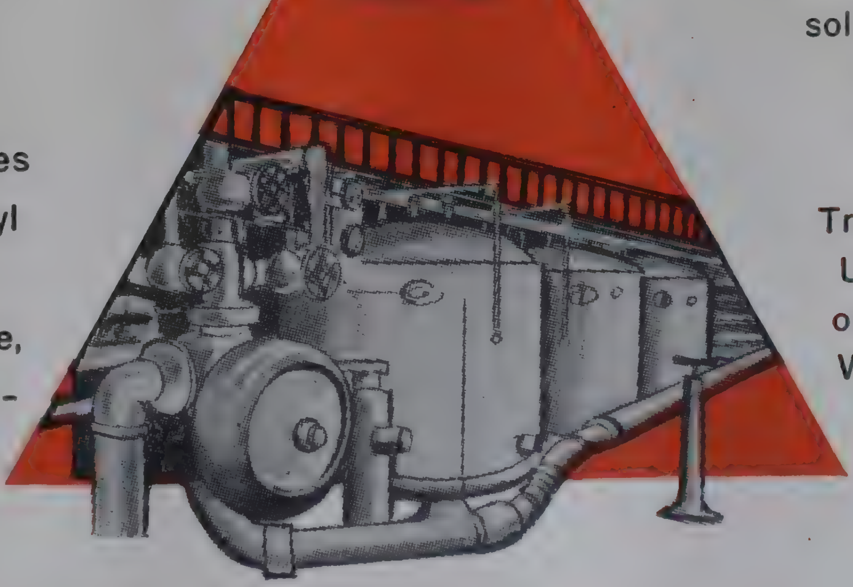

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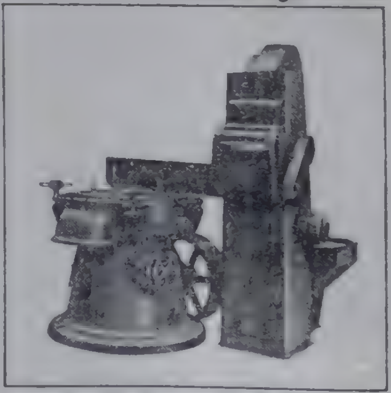

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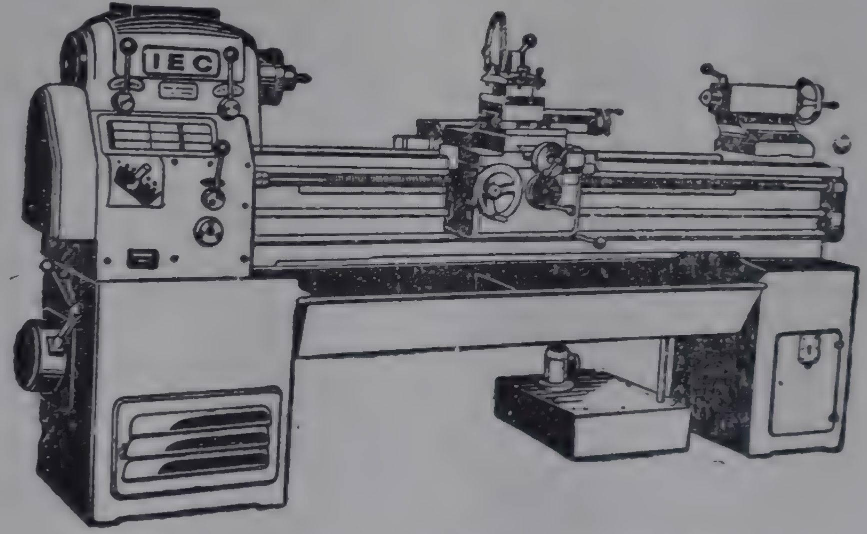

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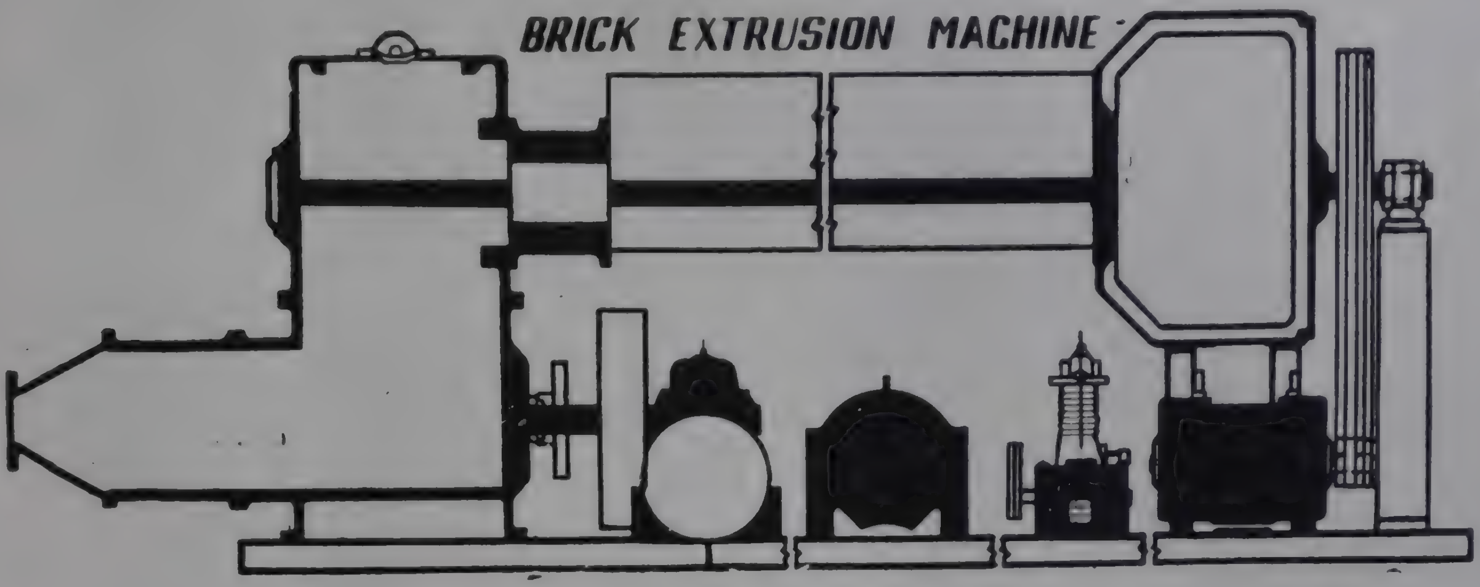

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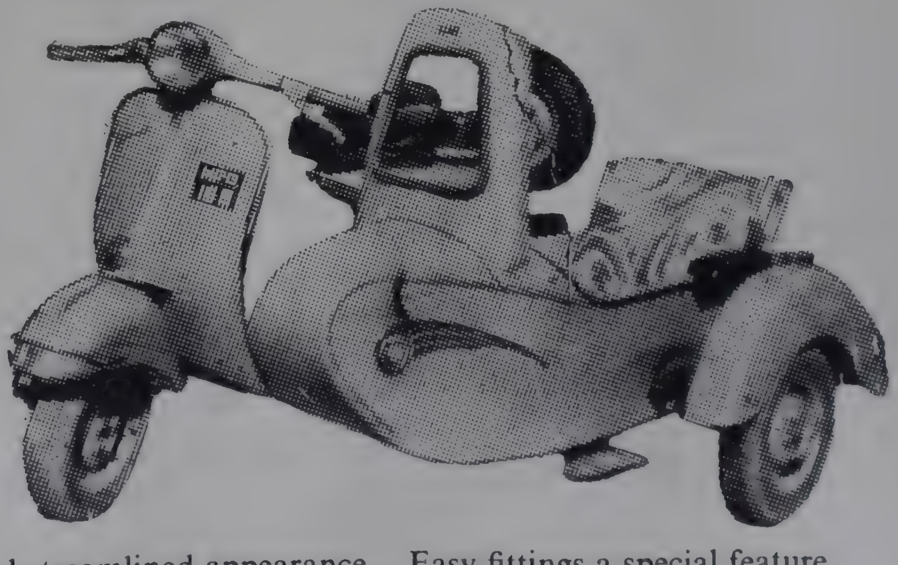

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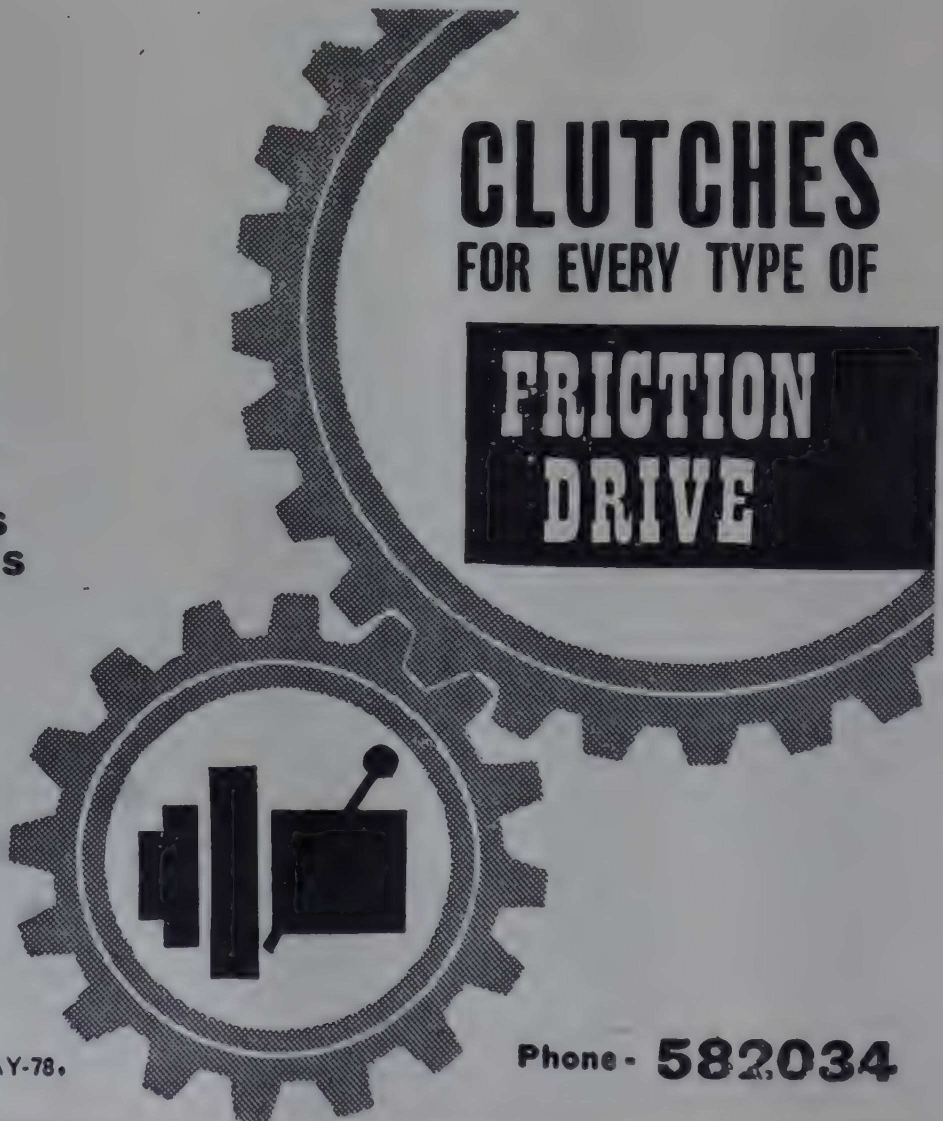

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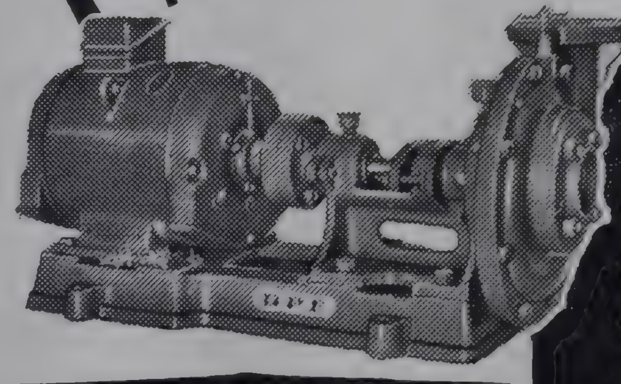

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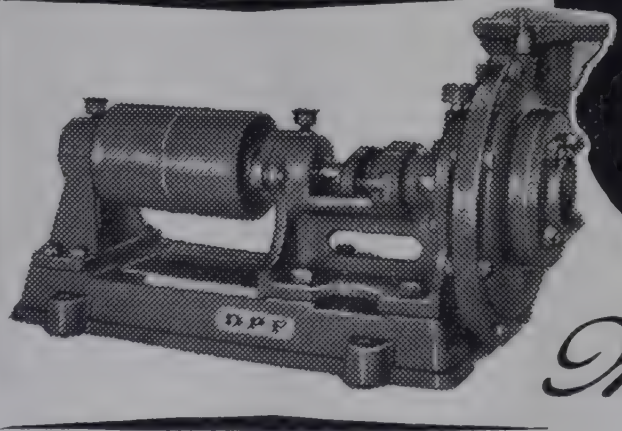

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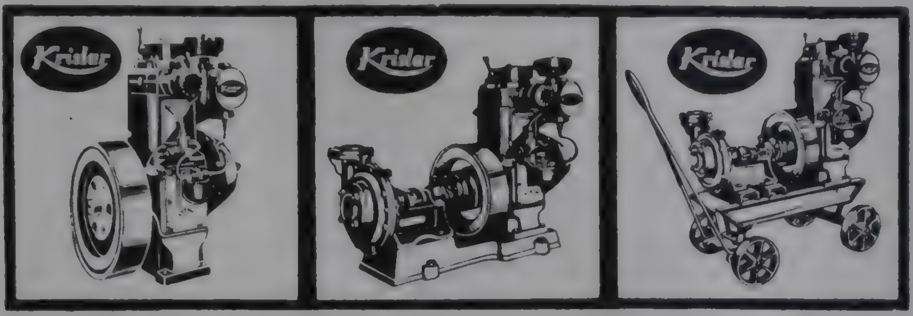

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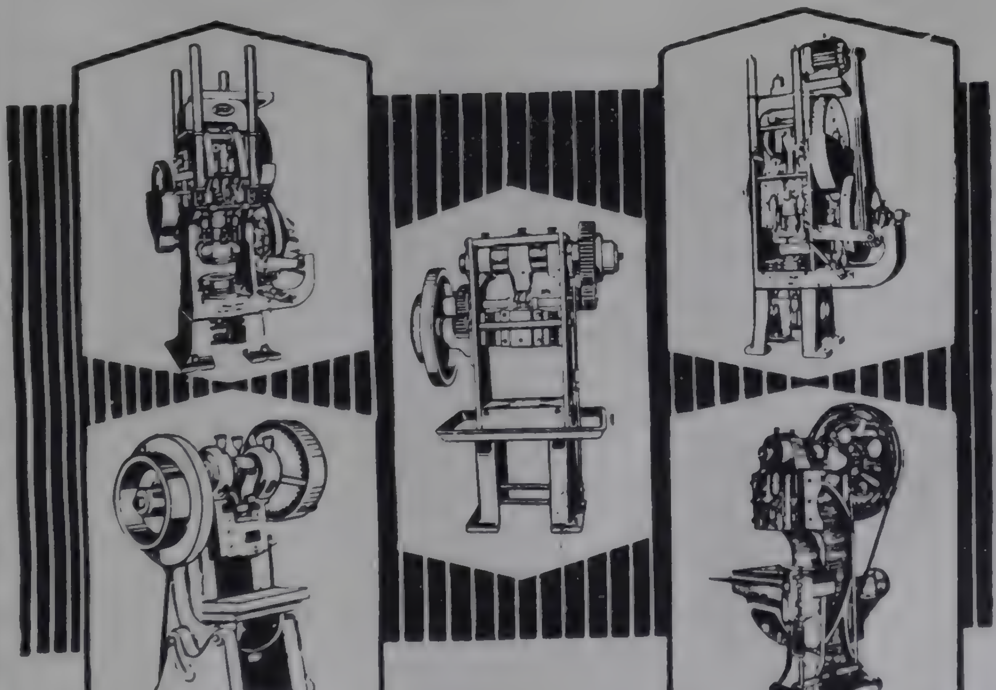

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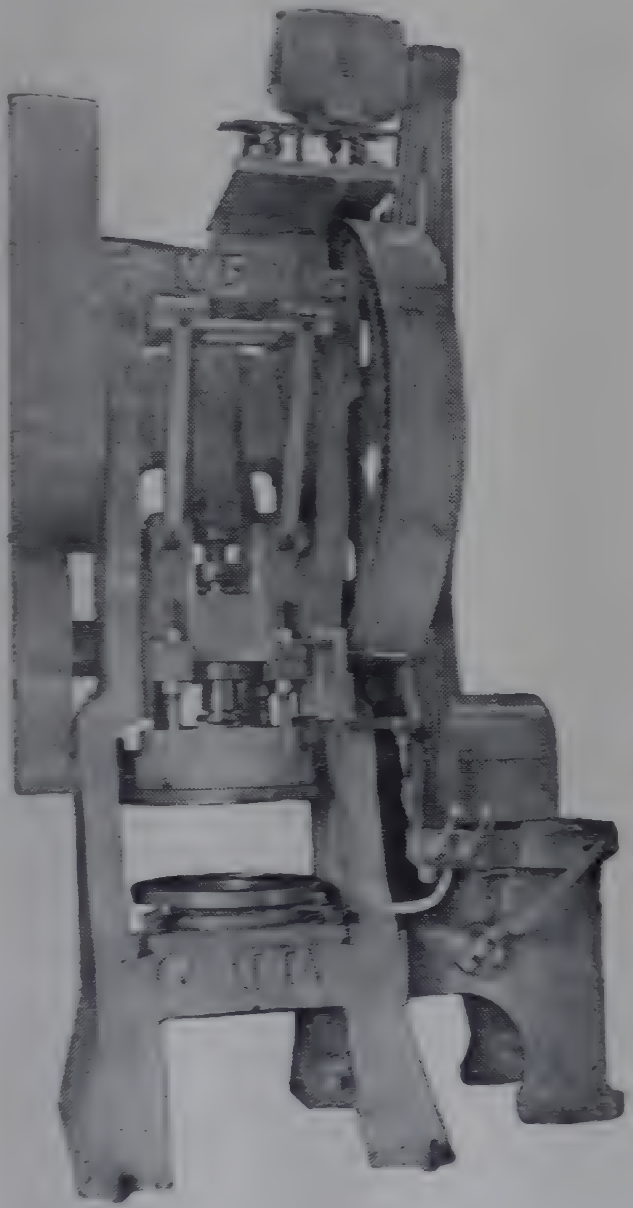

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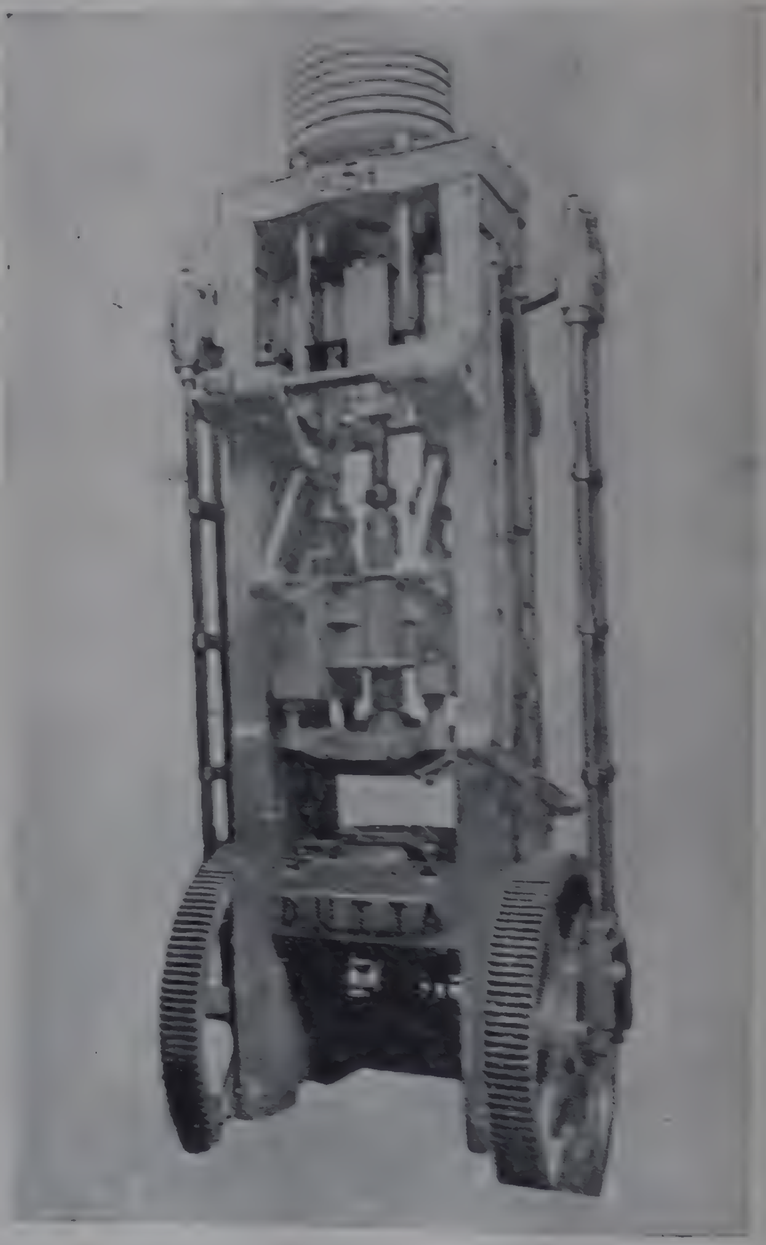

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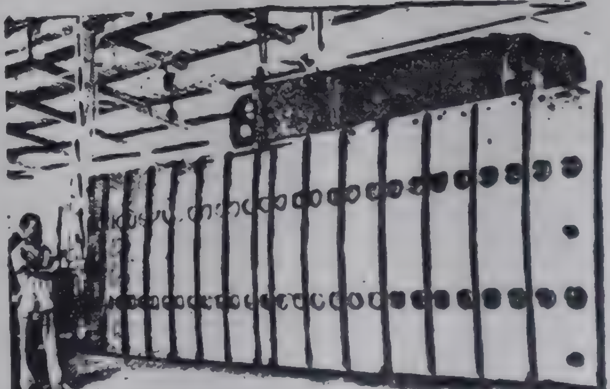

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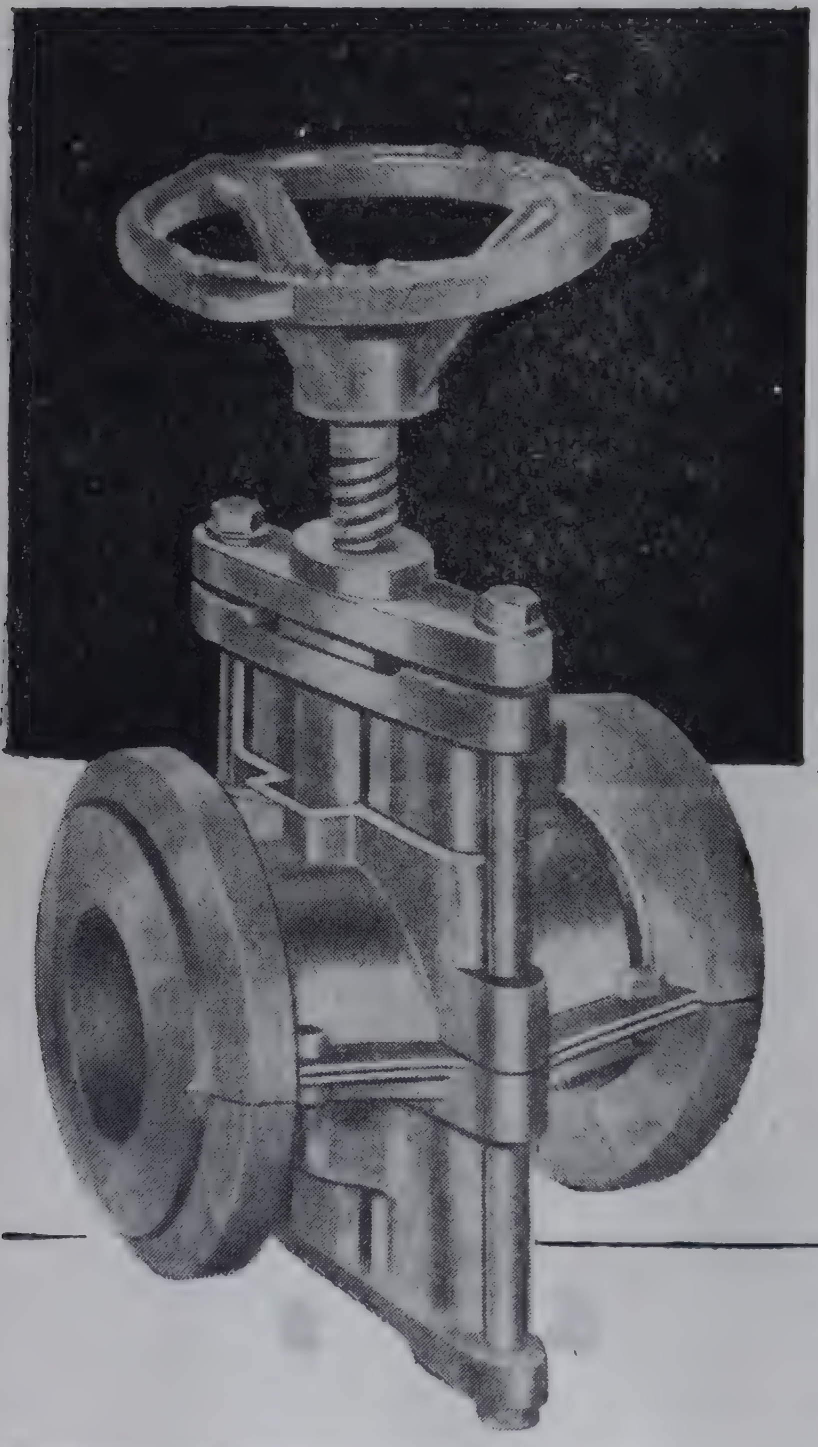

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EQUIPMENT INCLUDES FOR BAKERY CANNING OF FRUITS VEGETABLES FISH & MEATS

Gardners **Pioneers in Food Machinery**

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**India's First Automatic Socks Knitting Machine**

*We also manufacture:*

- ★ **Hosiery Machines,**
- ★ **Wire Knitting Machines,**
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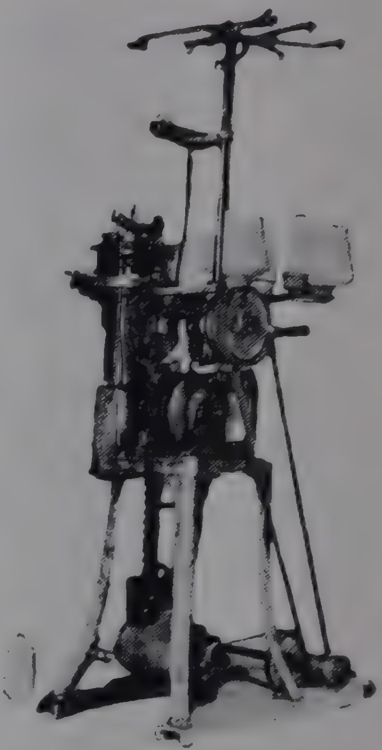
**and**

- ★ **Cylinders for all types of Socks Machines**

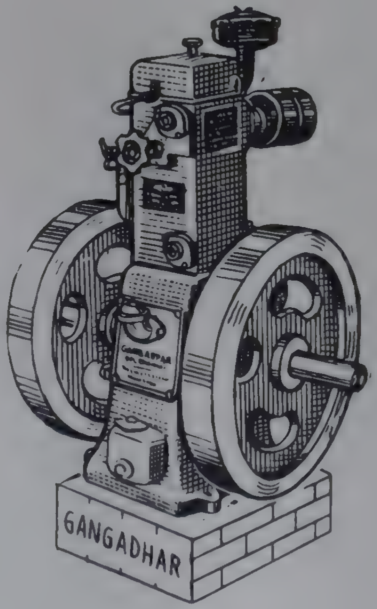


Displayed at Import Substitution Exhibition organised by DCSSI at Nirman Bhavan, New Delhi, the manufacturer is explaining some details to Shri Fakhruddin Ali Ahmed, Minister for Industrial Development, Internal Trade & Company Affairs, Govt. of India, who inaugurated the Exhibition on 20th March, 1970.

*Inquiries Solicited*

**Excelcior Mechanical Works, Regd.**

**6, Harphool Singh Building, Subzi Mandi, Delhi-7** *Phone:* **224049**



Tested and approved by Government Testing Institutes of U.P., A.P. & Gujarat. Numbers are running and being supplied in all over India. Some are Exported also.

*Manufacturers :*

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MALAVIYA ROAD

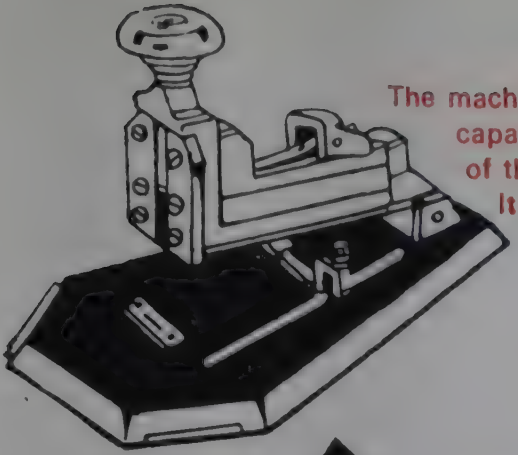
**RAJKOT-2 (India)**

*Phones:* Factory 25168

Office 25167

Residence 25137

*Gram:* GANGADHAR

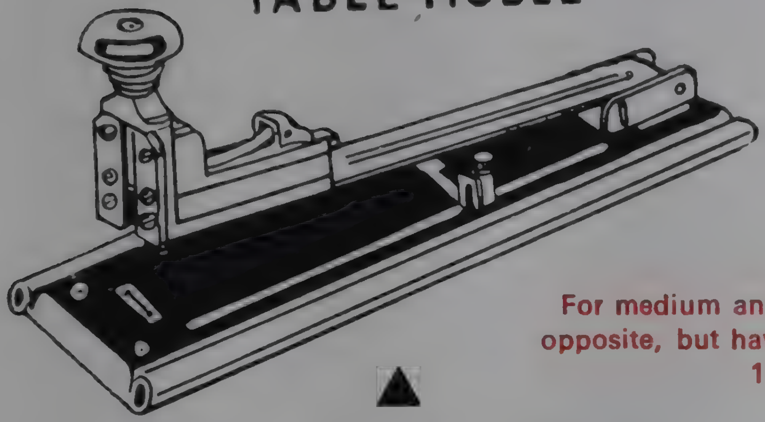


The machine for medium and light work, capable of stapling upto 200 sheets of thin paper without difficulty. It loads 100 staples of 23 gauge wire, and has a throat depth of 2½″ (=7 c.m.) with an adjustable stop.

▲

**HEAVY-DUTY STAPLERS**

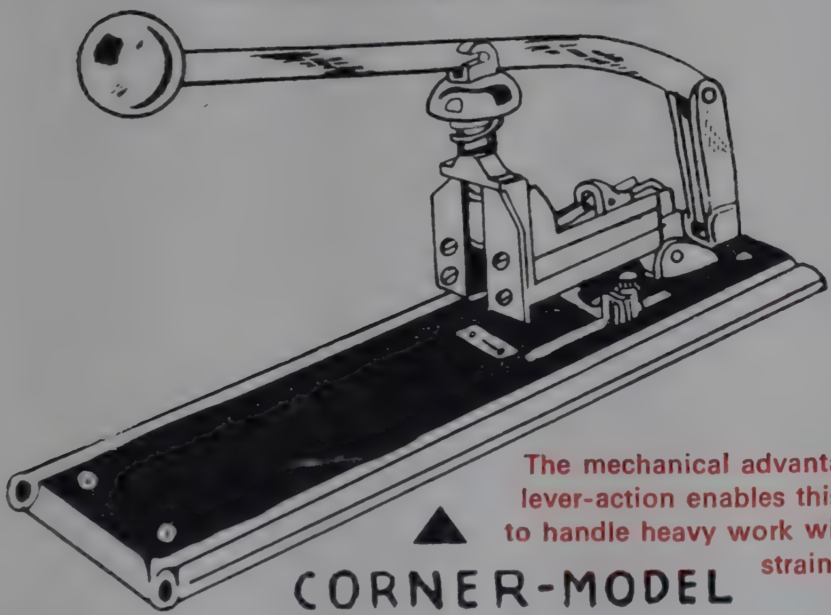
**TABLE-MODEL**



For medium and light work as opposite, but having a reach of 10″ (=26 c.m.)

▲

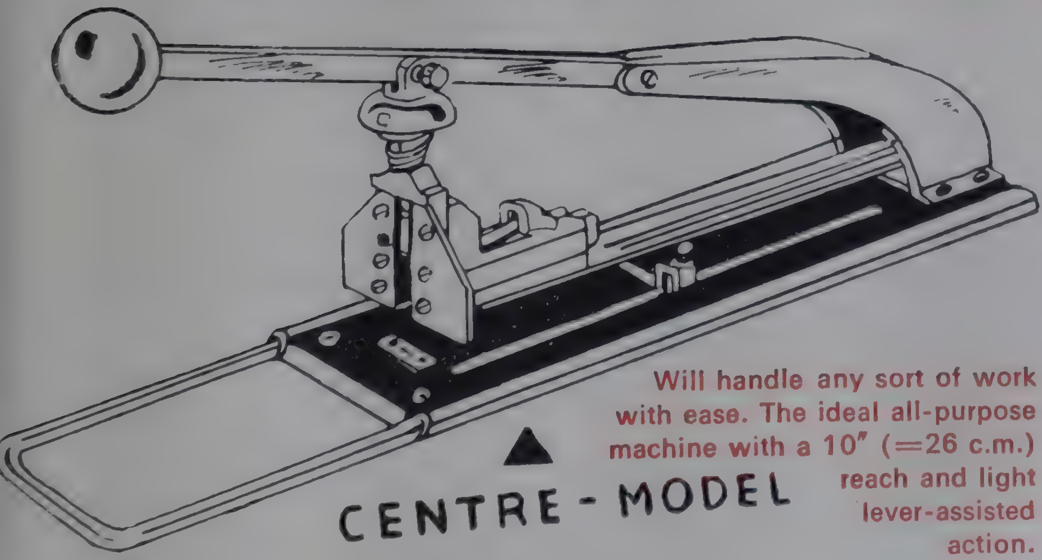
**LONGINUS-MODEL**



The mechanical advantage of the lever-action enables this machine to handle heavy work without any strain upon the operator.

▲

**CORNER-MODEL**



Will handle any sort of work with ease. The ideal all-purpose machine with a 10″ (=26 c.m.) reach and light lever-assisted action.

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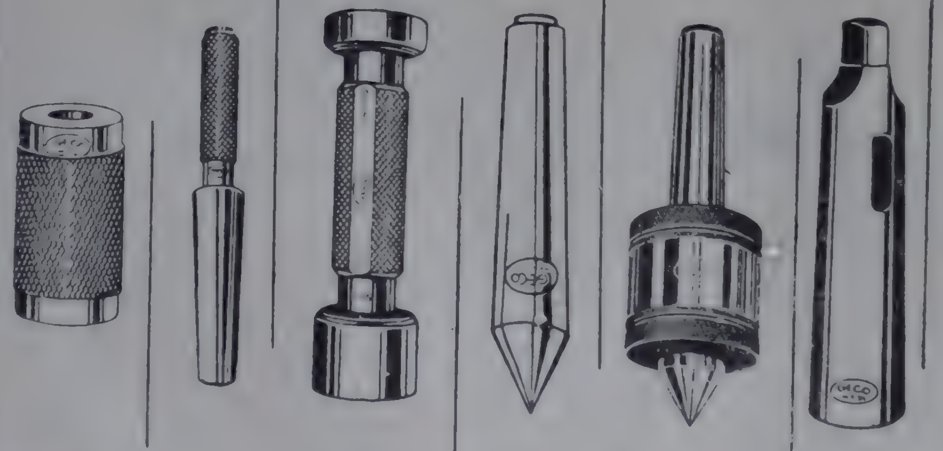

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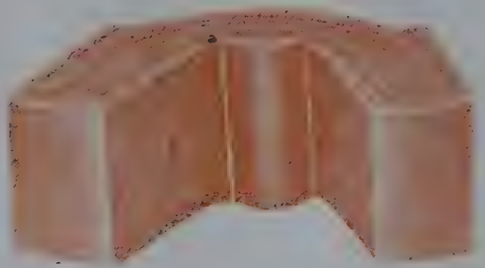

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*Resi:* **451748** *Factory:* **593560**

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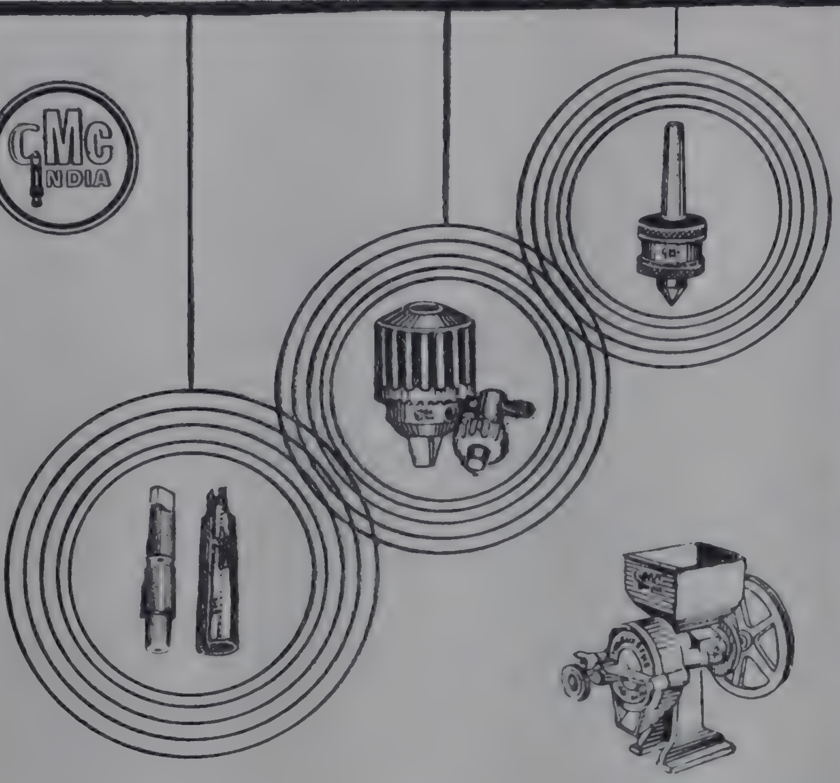

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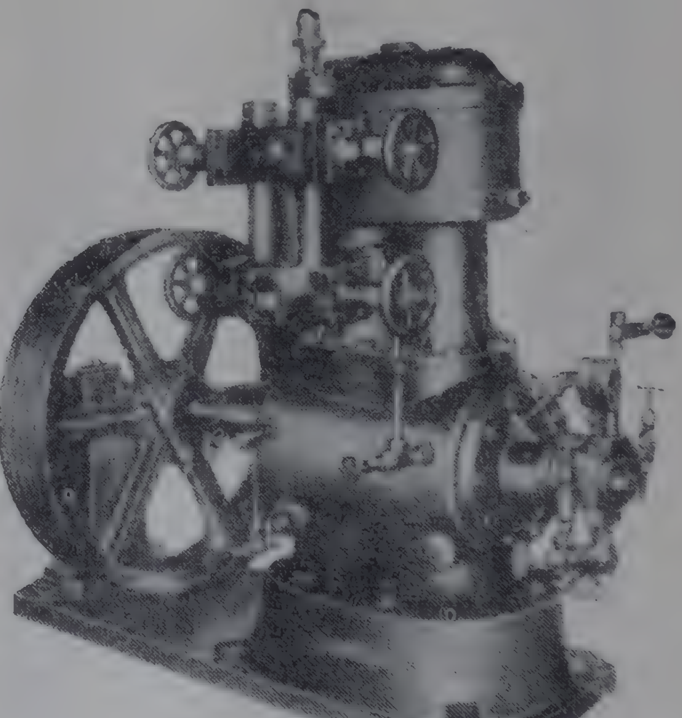

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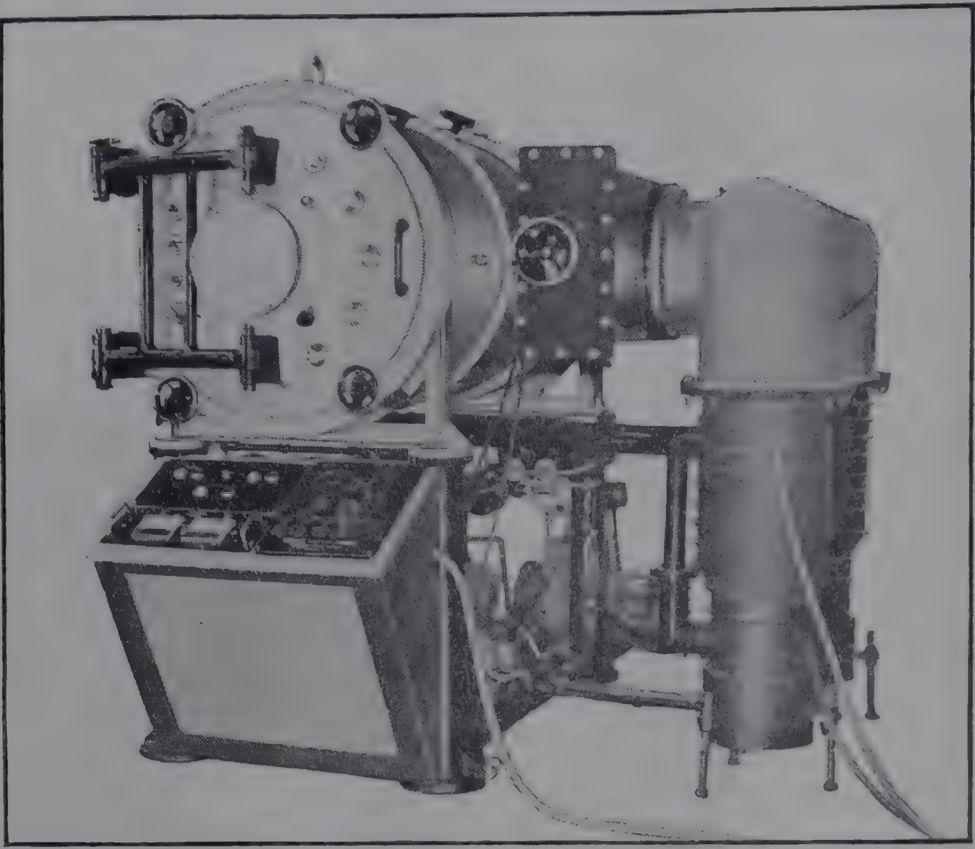

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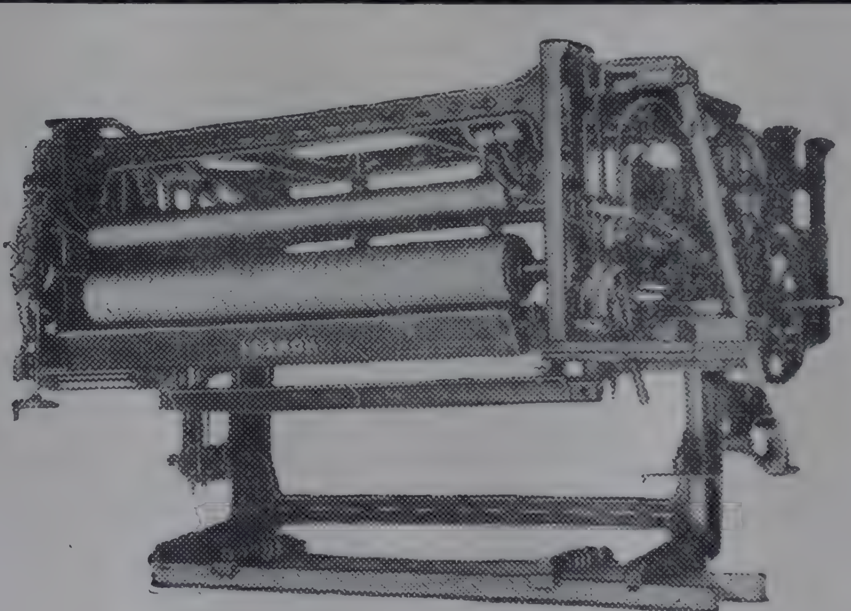

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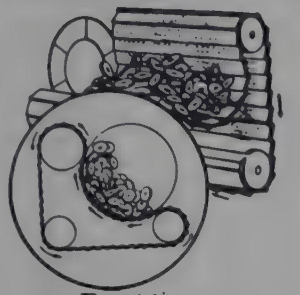
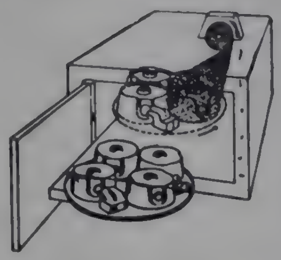
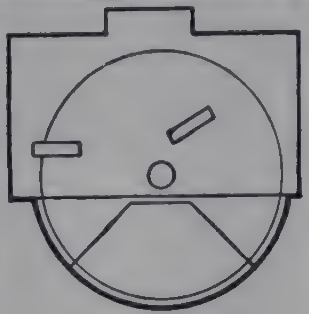


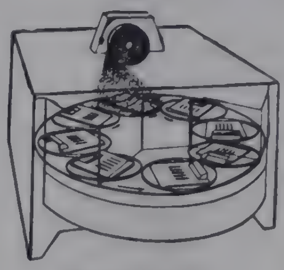
Tumblast & Super Tumblast



Swing Table

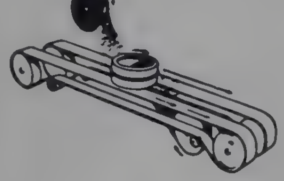


Plain Table

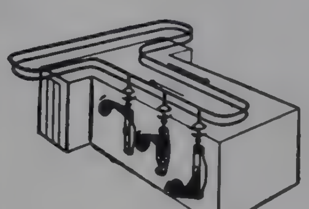


Multi Table

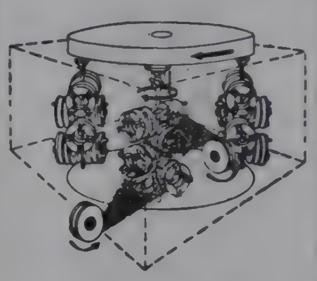
Roller Conveyor



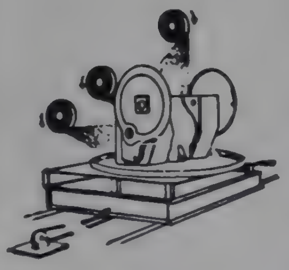
Belt Conveyor



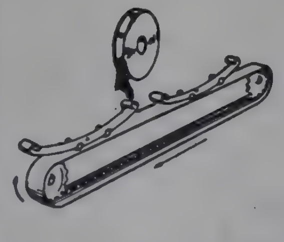
Mono Rail



Spinner Hanger



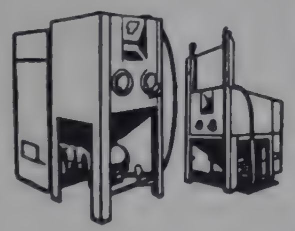
Car Table



Shot Peening springs

Shot Peening Gears

Portable



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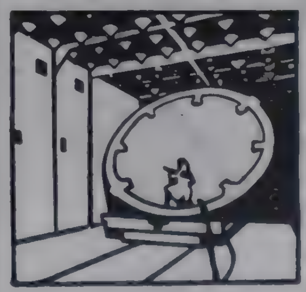

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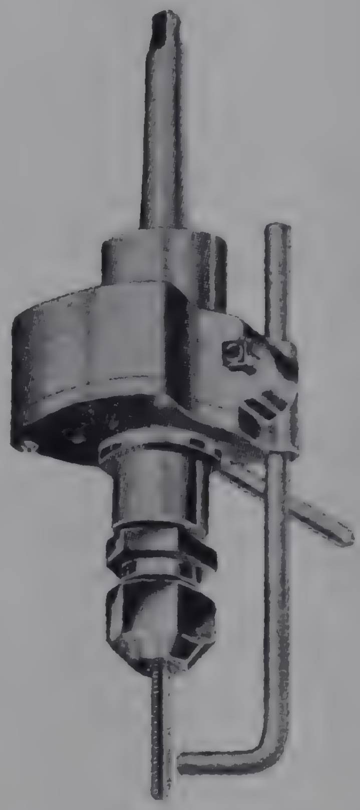
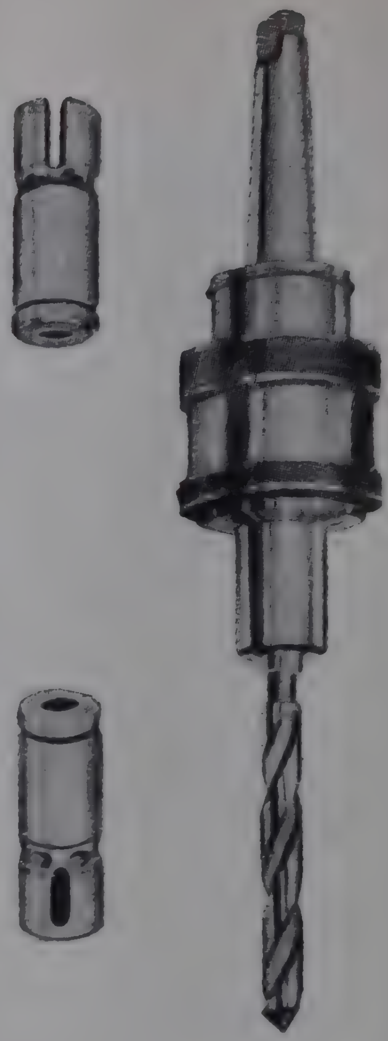
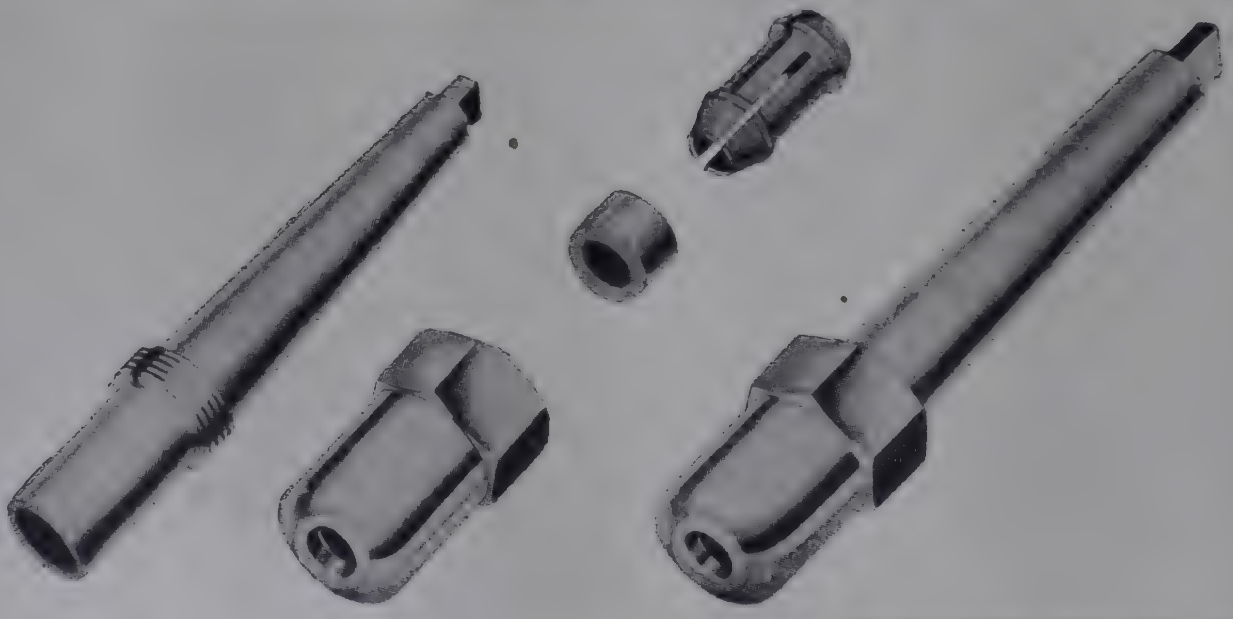


TAPPING ATTACHMENT



QUICK-CHANGE DRILL CHUCK



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*Regd. Office*: E-7 Green Park, New Delhi-16

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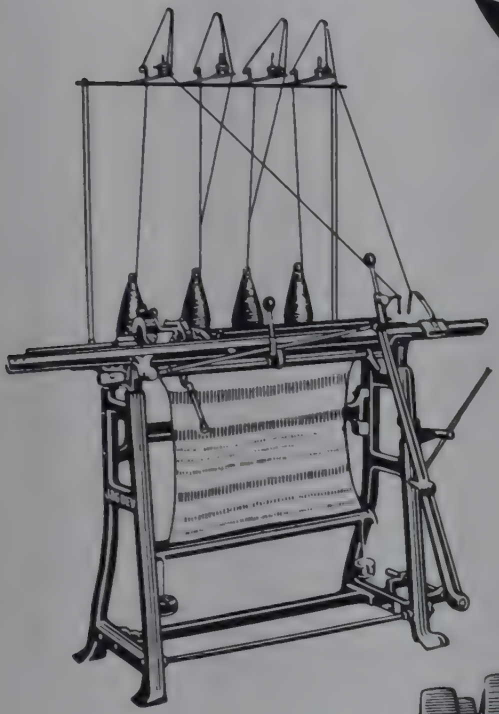

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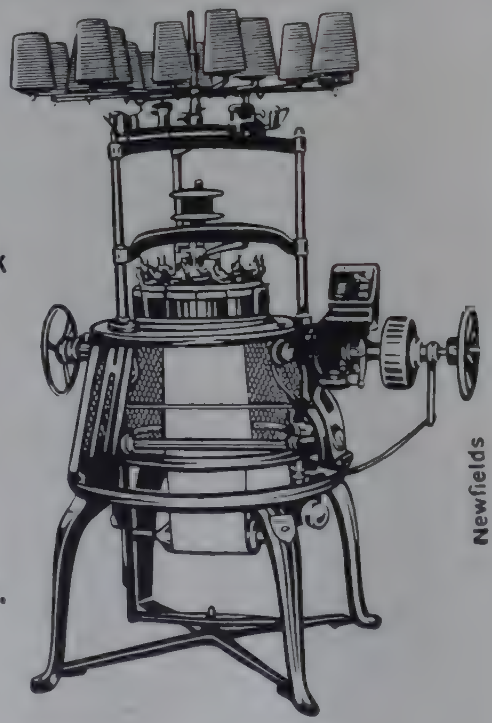

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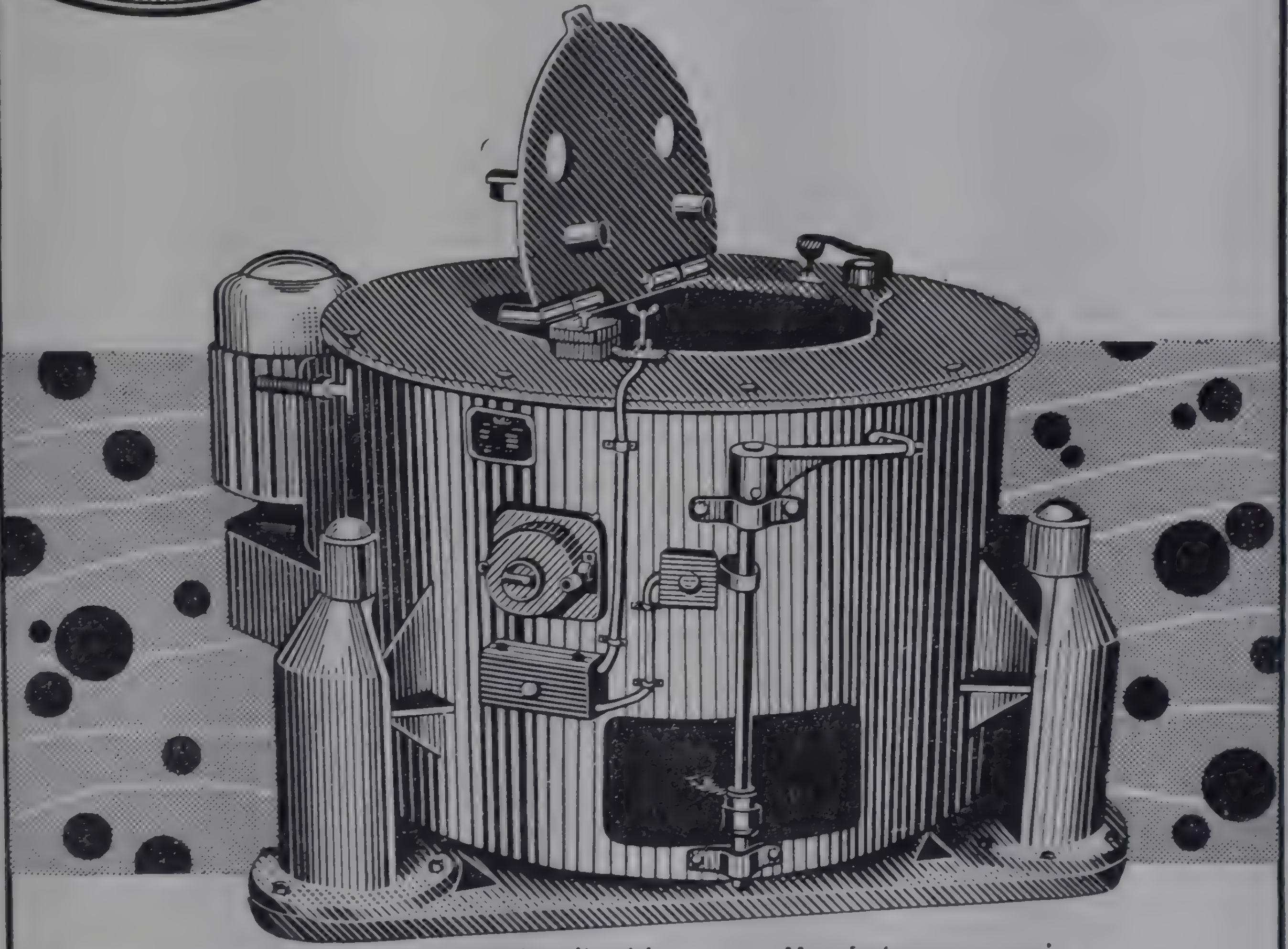

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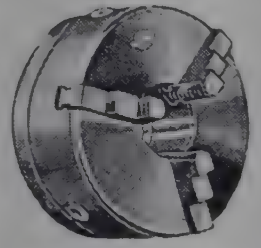

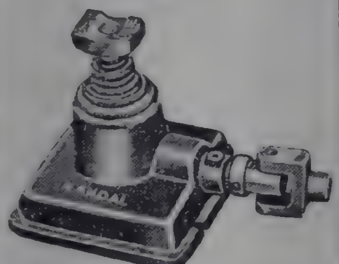

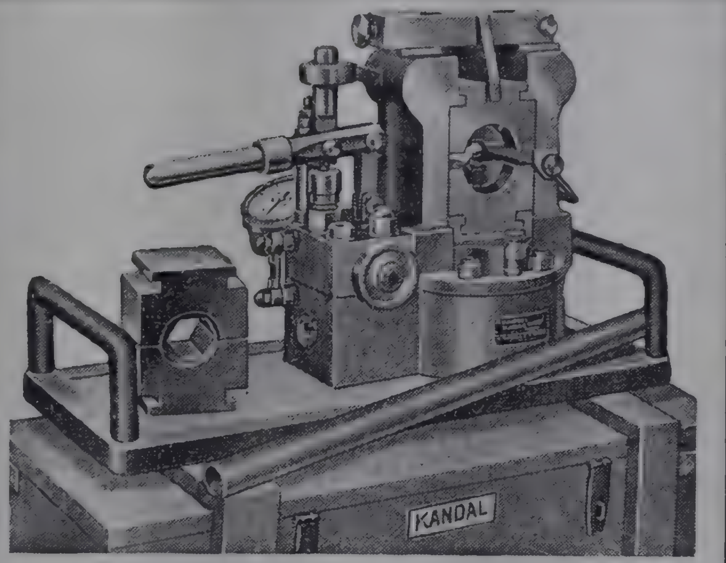

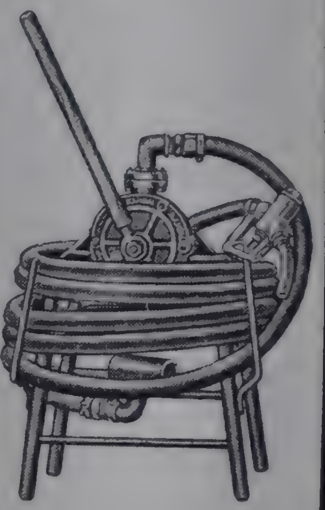

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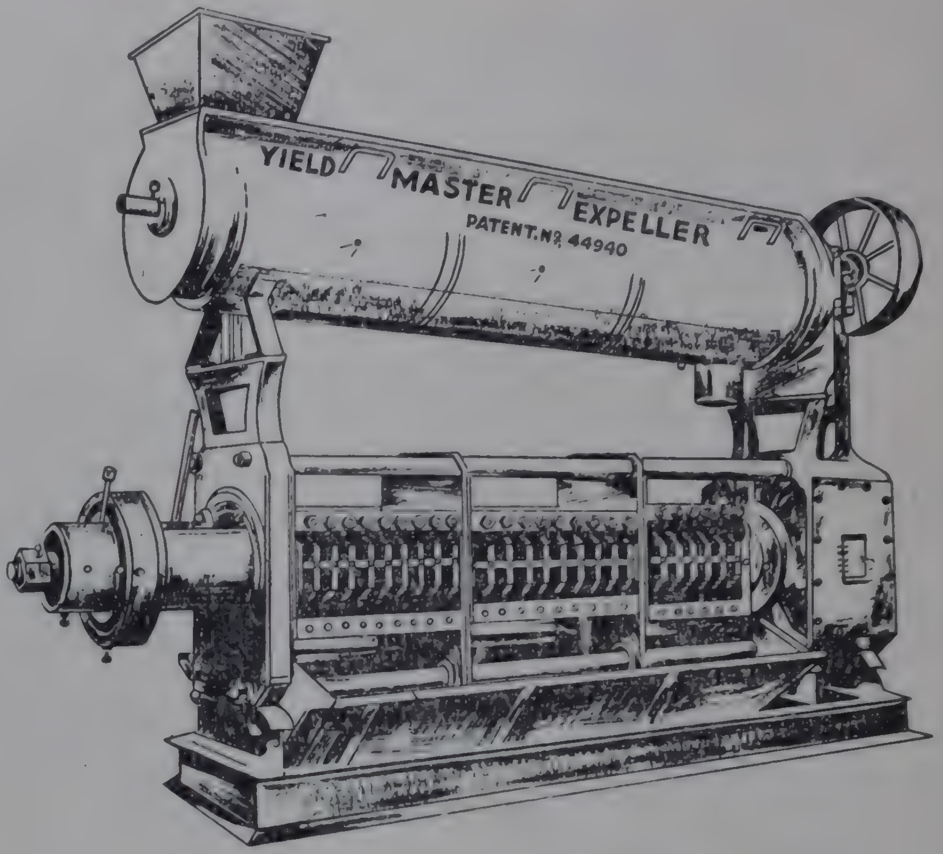

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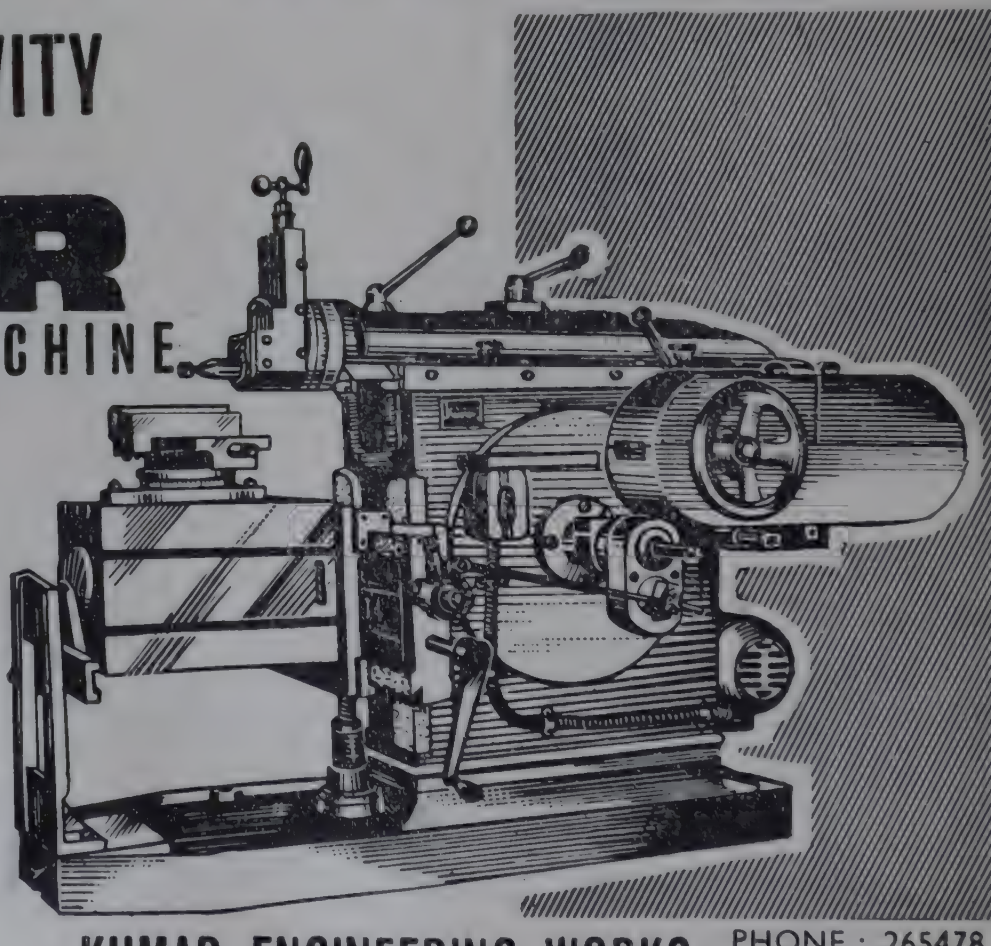

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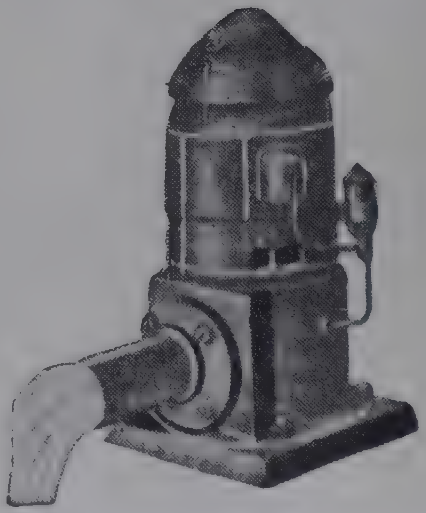

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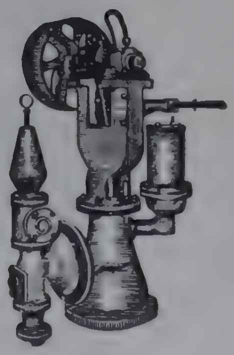

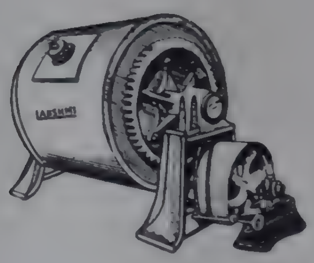

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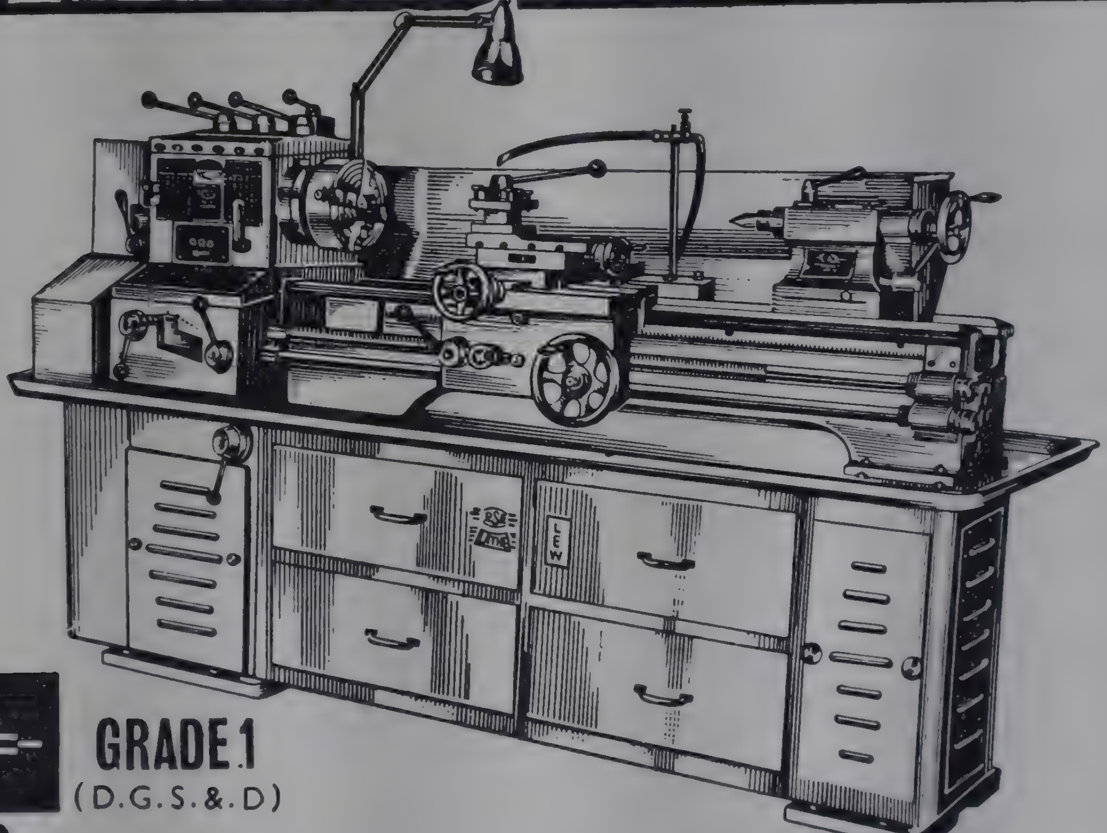

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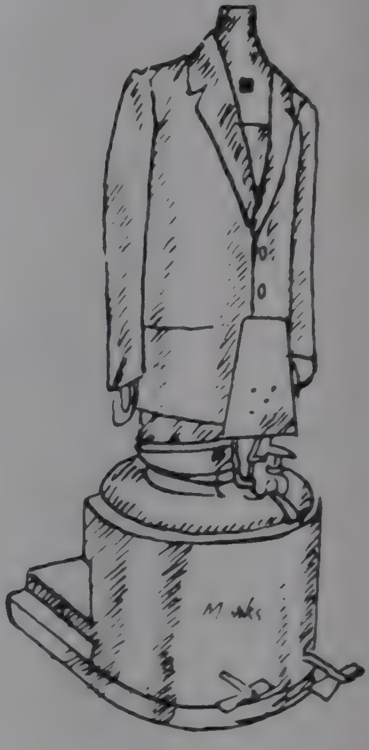

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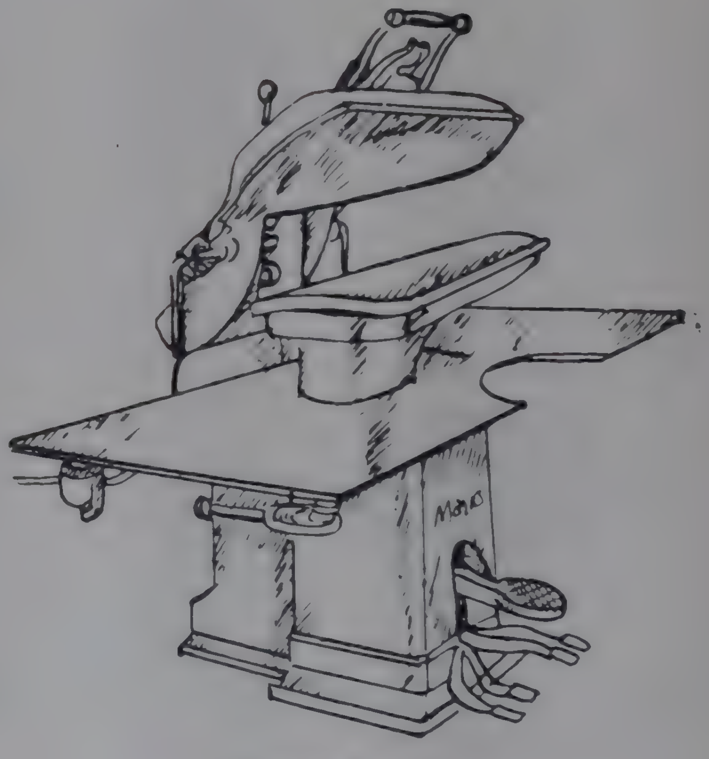

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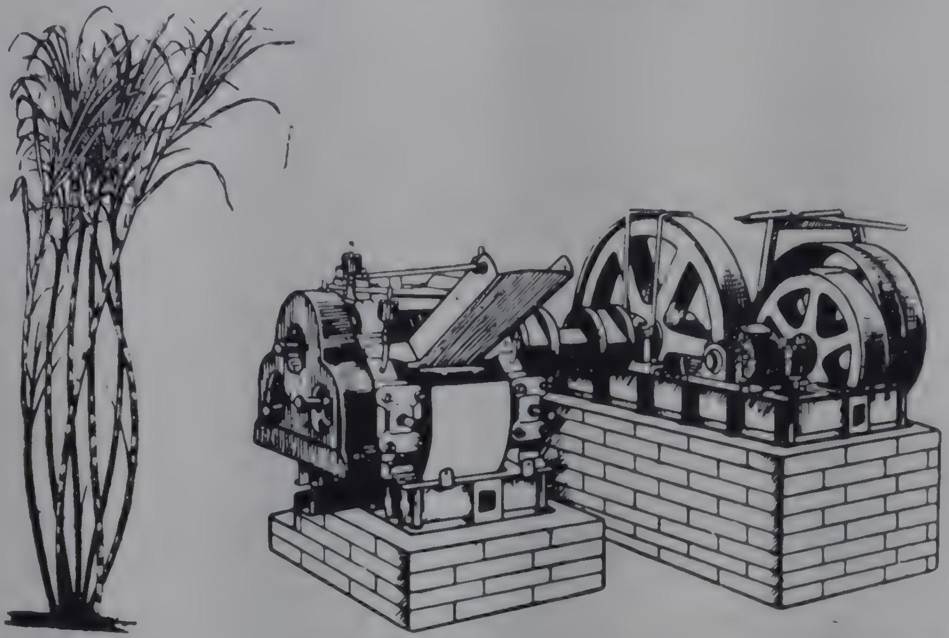

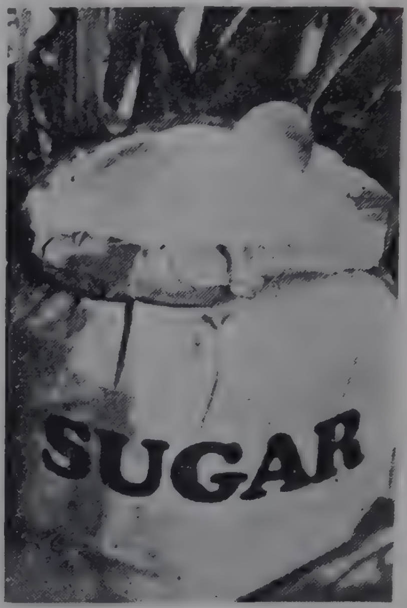

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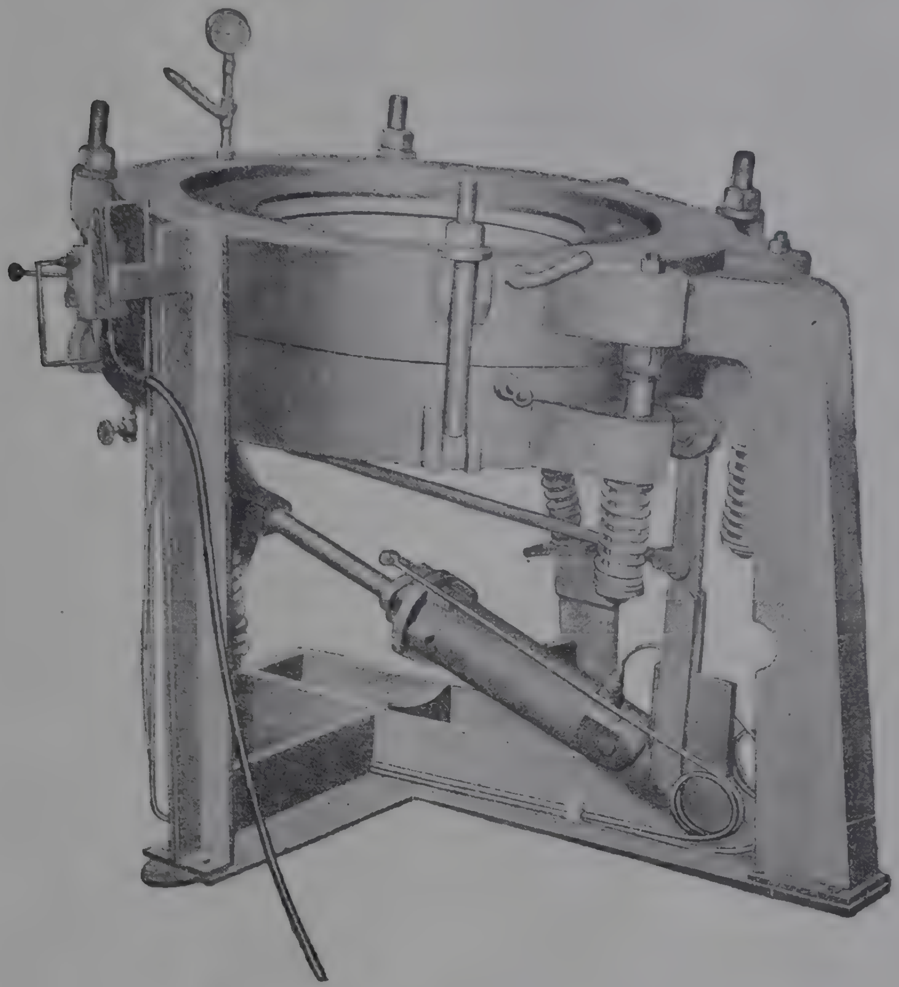

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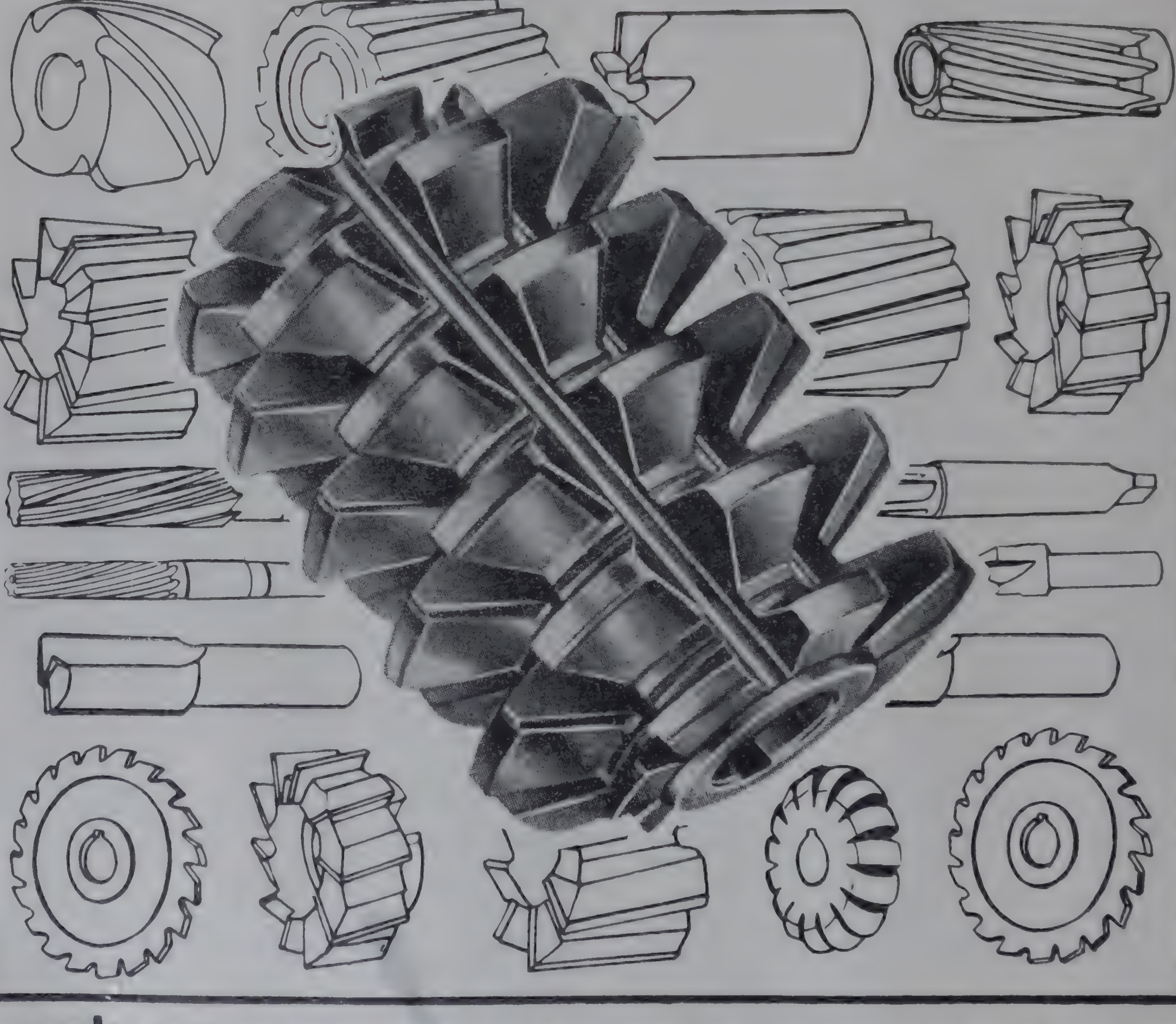

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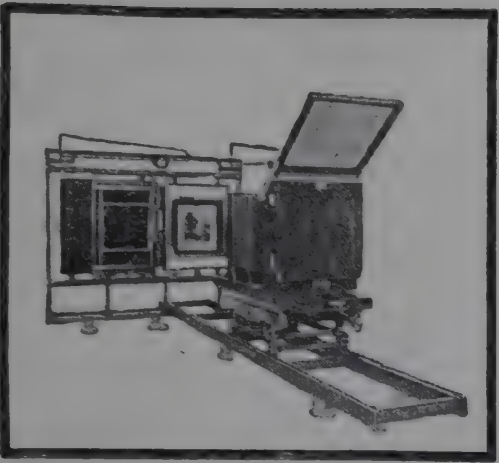

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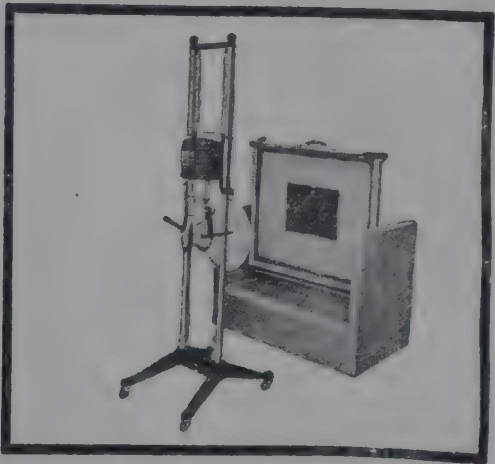
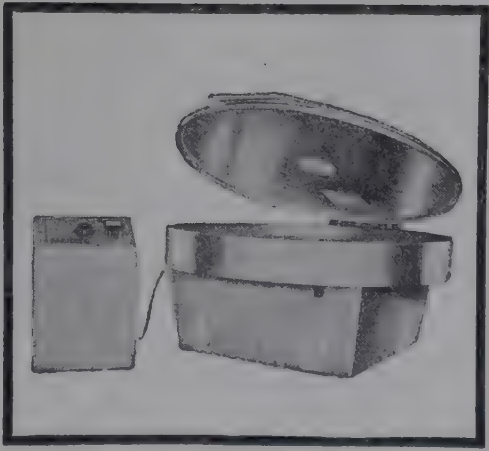


**Cameras, whirlers, printing down frames, arc lamps, contact printers, illuminated tables, lining up tables, artist retouching desks, etc.**



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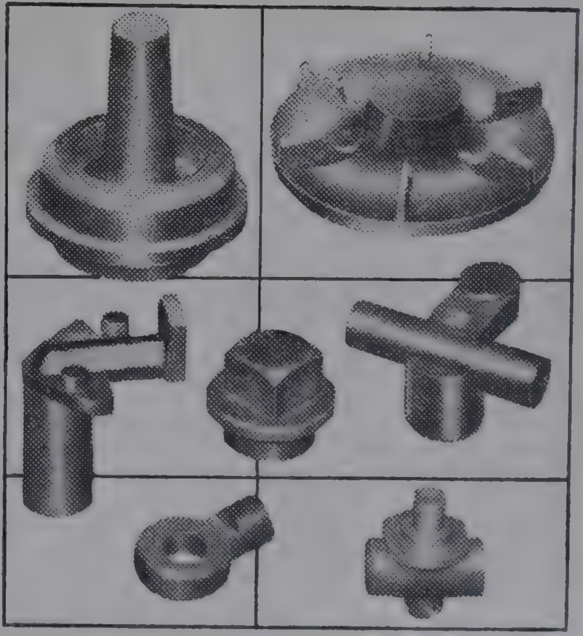

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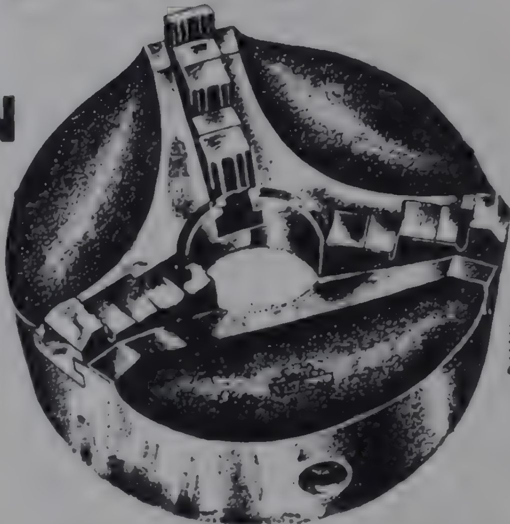

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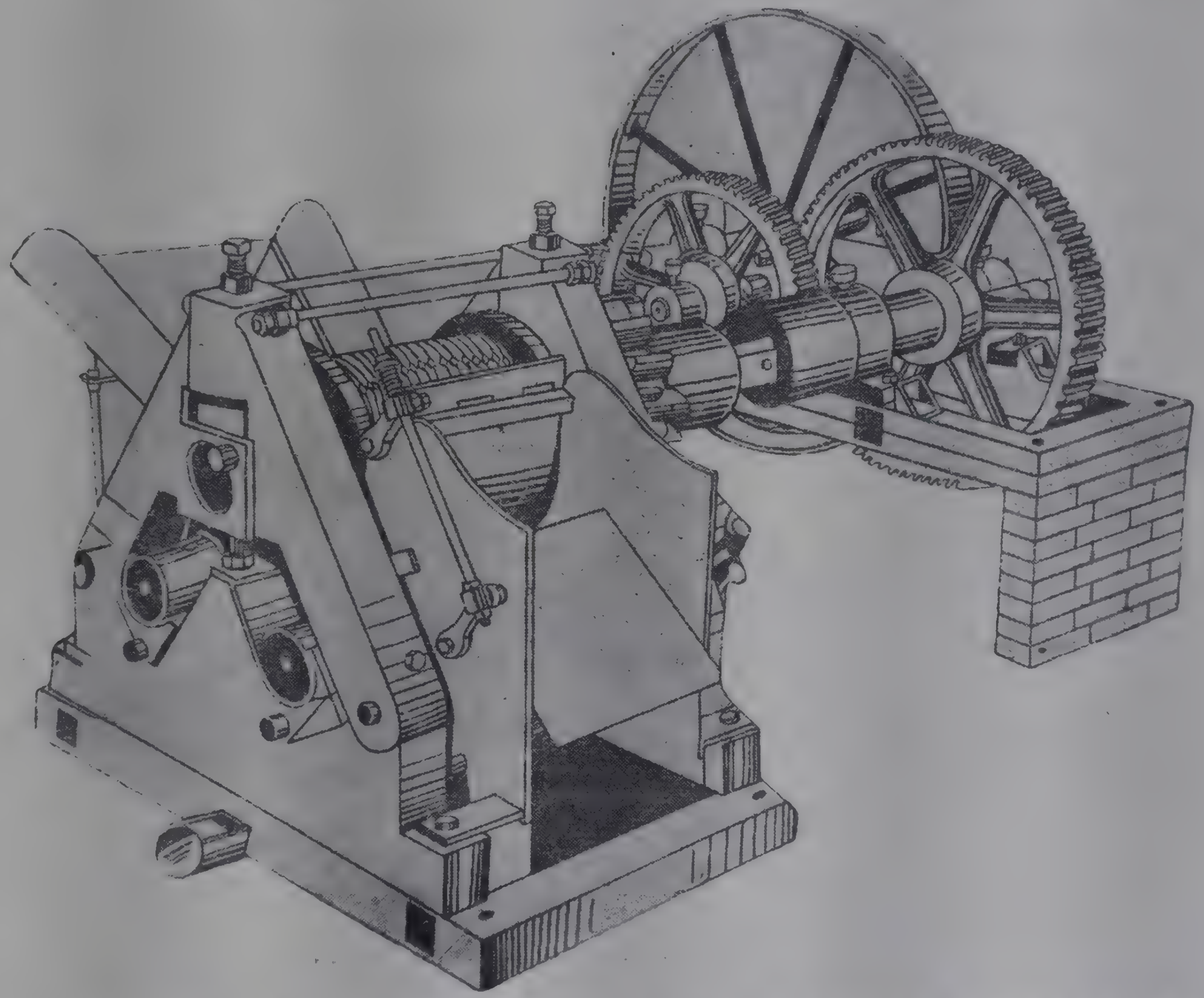

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*Grams* : **'AGRICULT'**

*Phones:* Office : 4199
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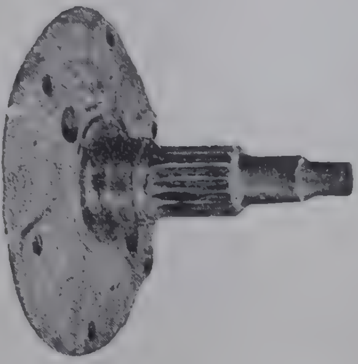
Factory : 86-373



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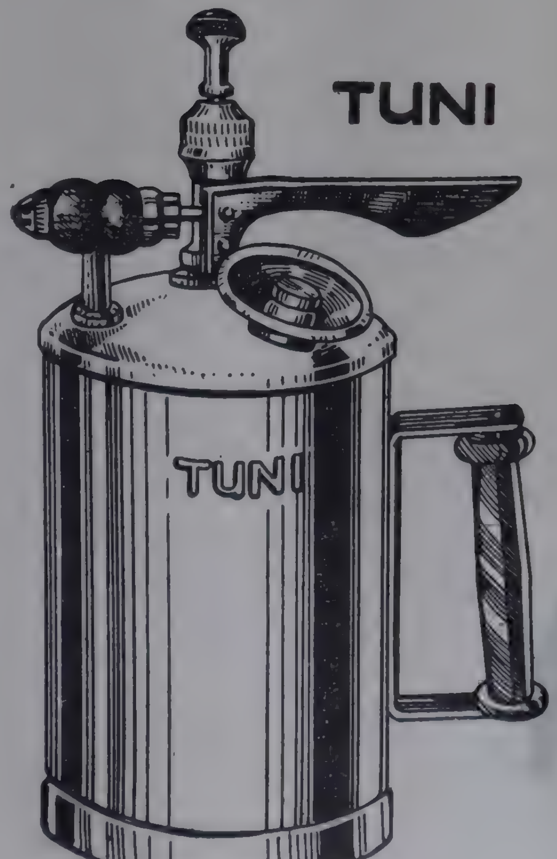

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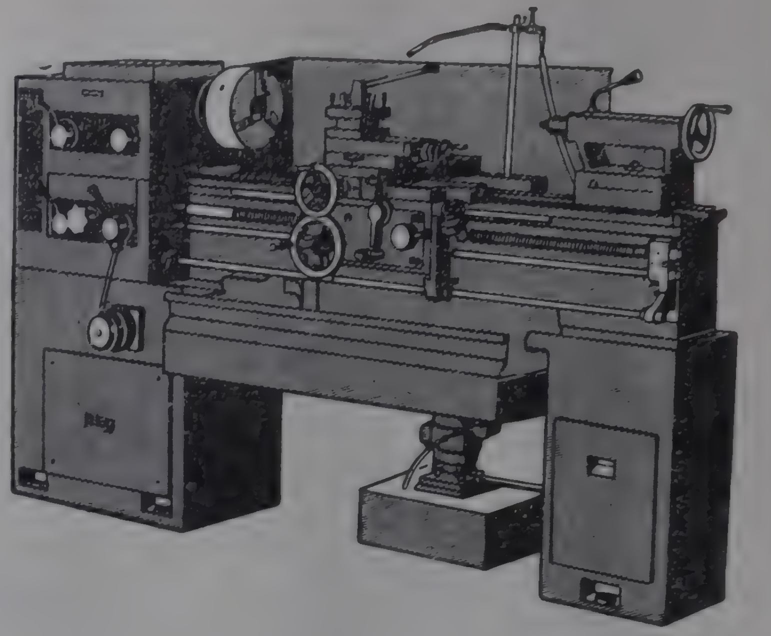

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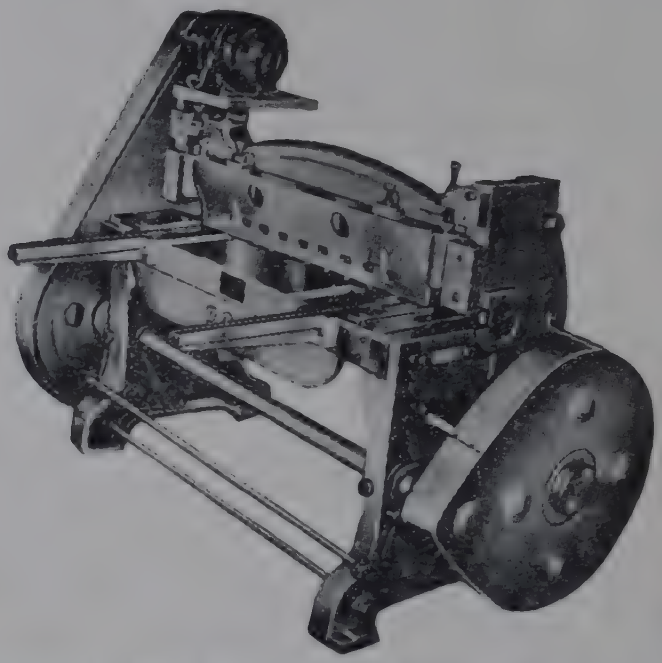
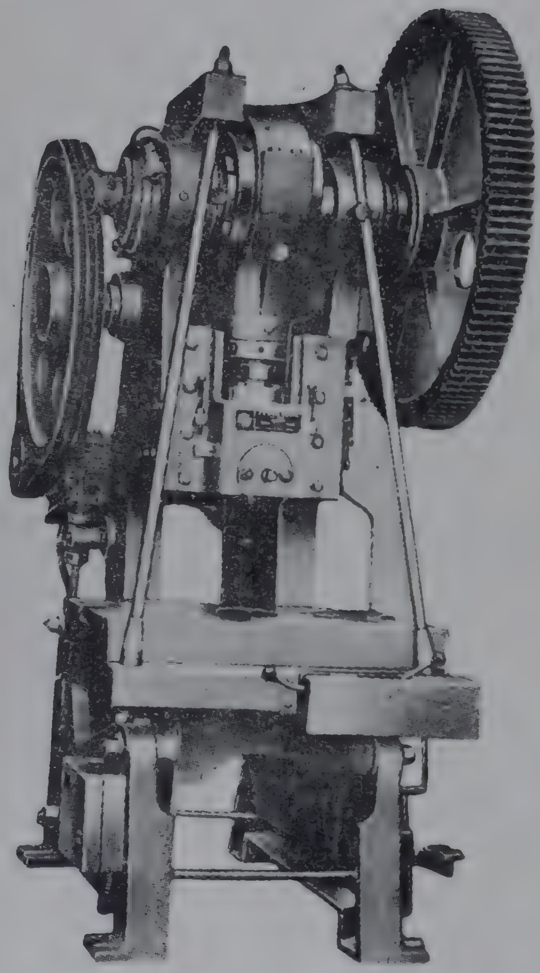


Model UC 48 SIZE : 1200 x 4 m/m



Geared/Ungeared
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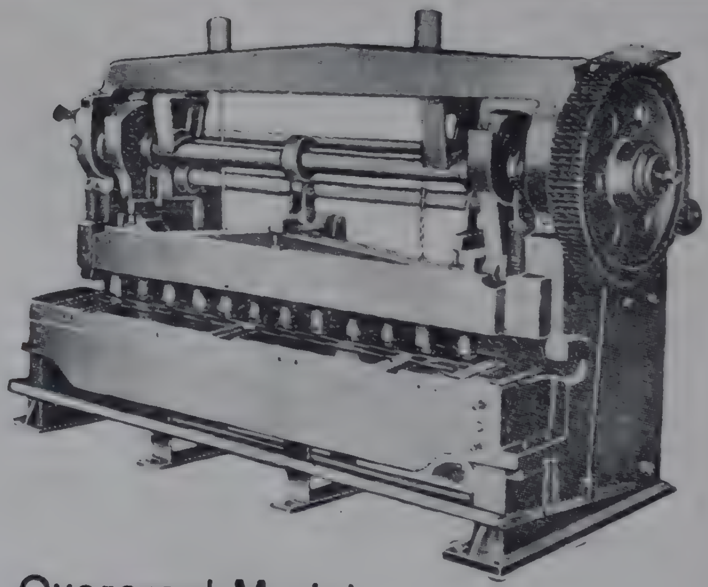

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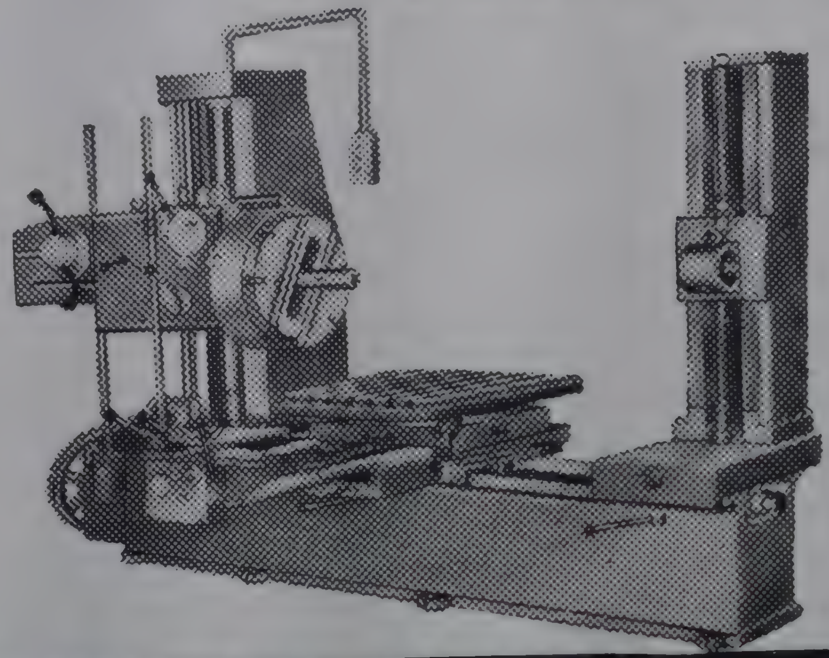

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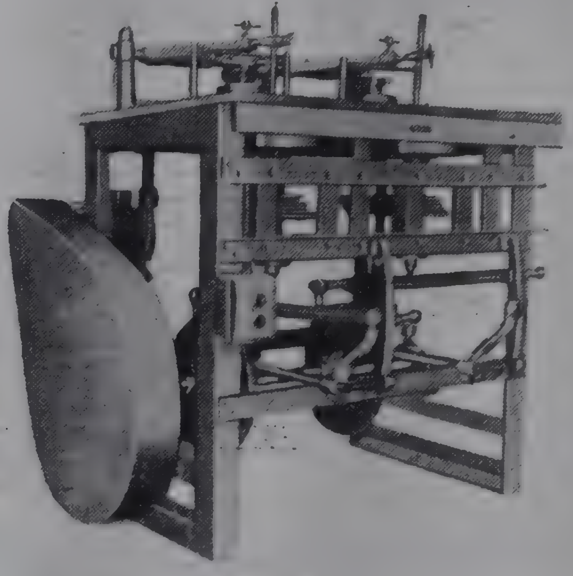

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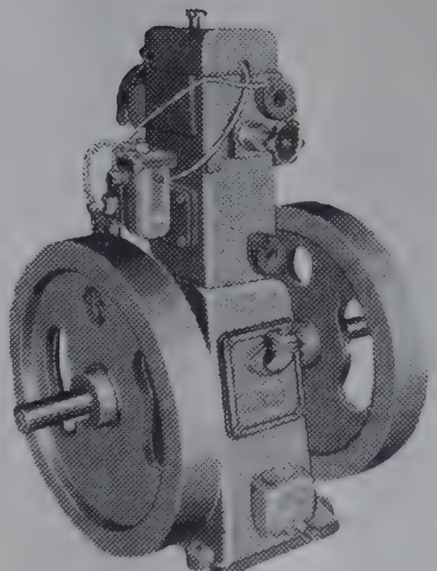

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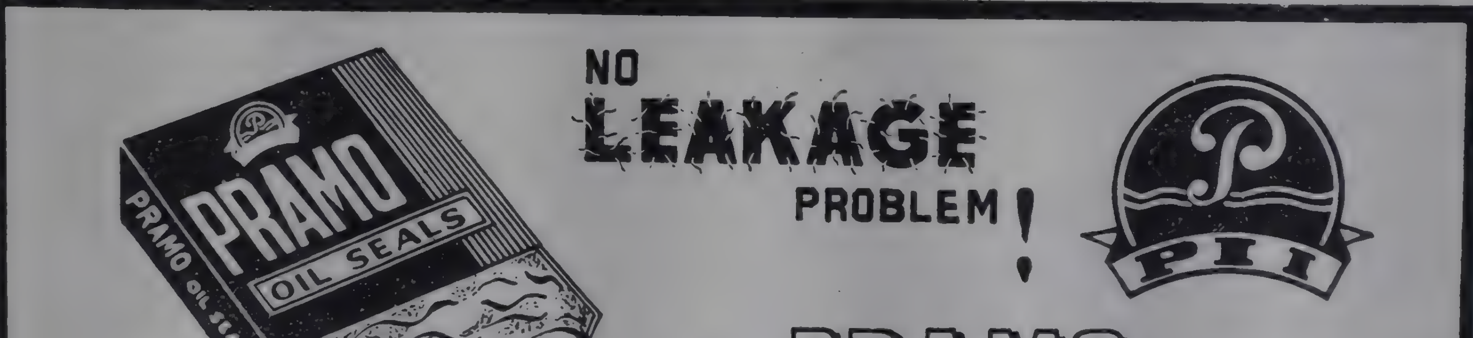

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48D, Anath Nath Deb Lane
CALCUTTA—37

*Manufacturers*

*of*

SUPERIOR QUALITY OFFICE PINS
OF VARIOUS SIZES, ELCTRO-
PLATING BARREL MACHINES
FOR HOME AND ABROAD

*AND*

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**(INDIA)**
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BUILT-IN MOTOR DRIVE
SIMPLE TO OPERATE
ADJUSTABLE PLATING
ANGLE, ACID, ALKALI
PROOF, ROTATABLE
DURING EMPTYING

**TECHNICAL KNOW-HOW BACKED BY FOREIGN TRAINED EXPERTS.**

WE ALSO UNDERTAKE
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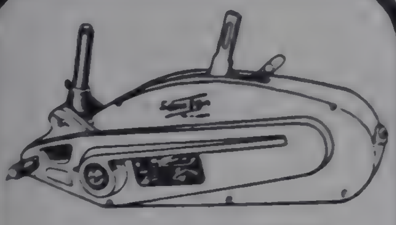
# WE PULL NEW PRODUCTS

# AND LIFT FOREIGN EXCHANGE

# BALANCES

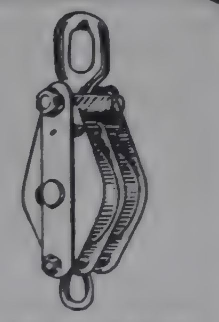
Very often, people ask us what do we pull and what do we lift. Well, we pull (rather develop) new Engineering Products not made in India before and lift (rather save or, earn) Country's Foreign Exchange Balances by dual method of Import Replenishment and Exports. Over past many years we have successfully developed a series of much needed items - many of them for our Defence Forces - All without any Foreign assistance and saved considerable Foreign Exchange.

A few items developed by us:



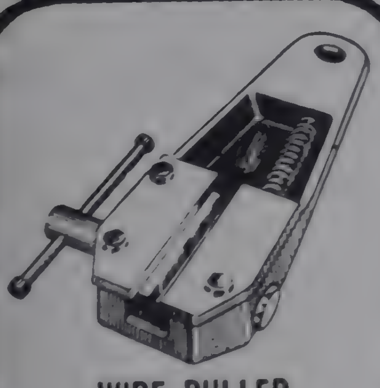
PULLING & LIFTING MACHINES

RATCHET HOISTS

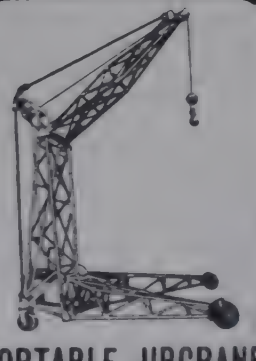


BLOCK TACKLES

SELFRAISING PORTABLE GANTRY



WIRE PULLER



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PHONE : 853108

GRAMS : PULLIFT

designed with greater

efficiency

for higher

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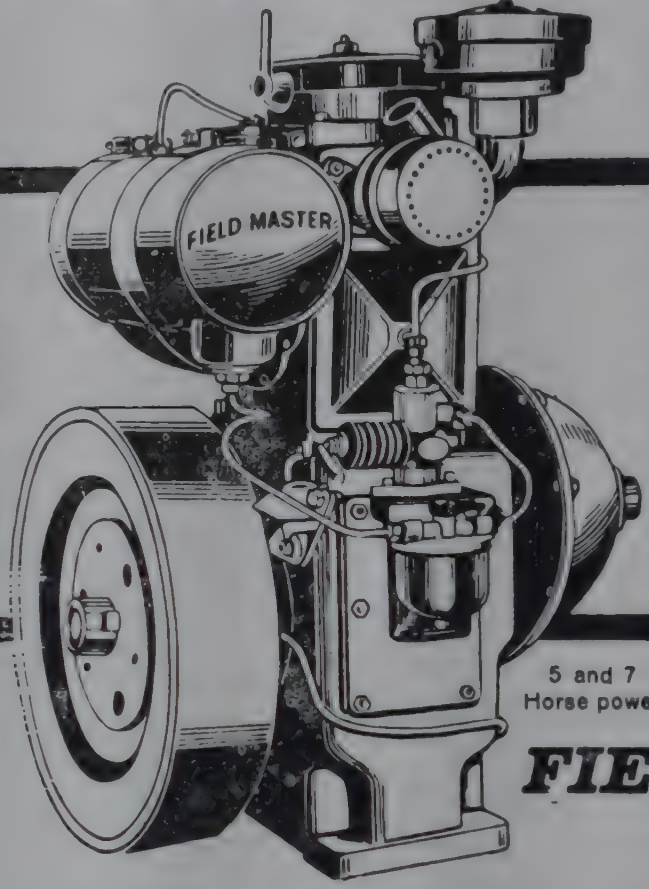

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*Manufactured in India under*
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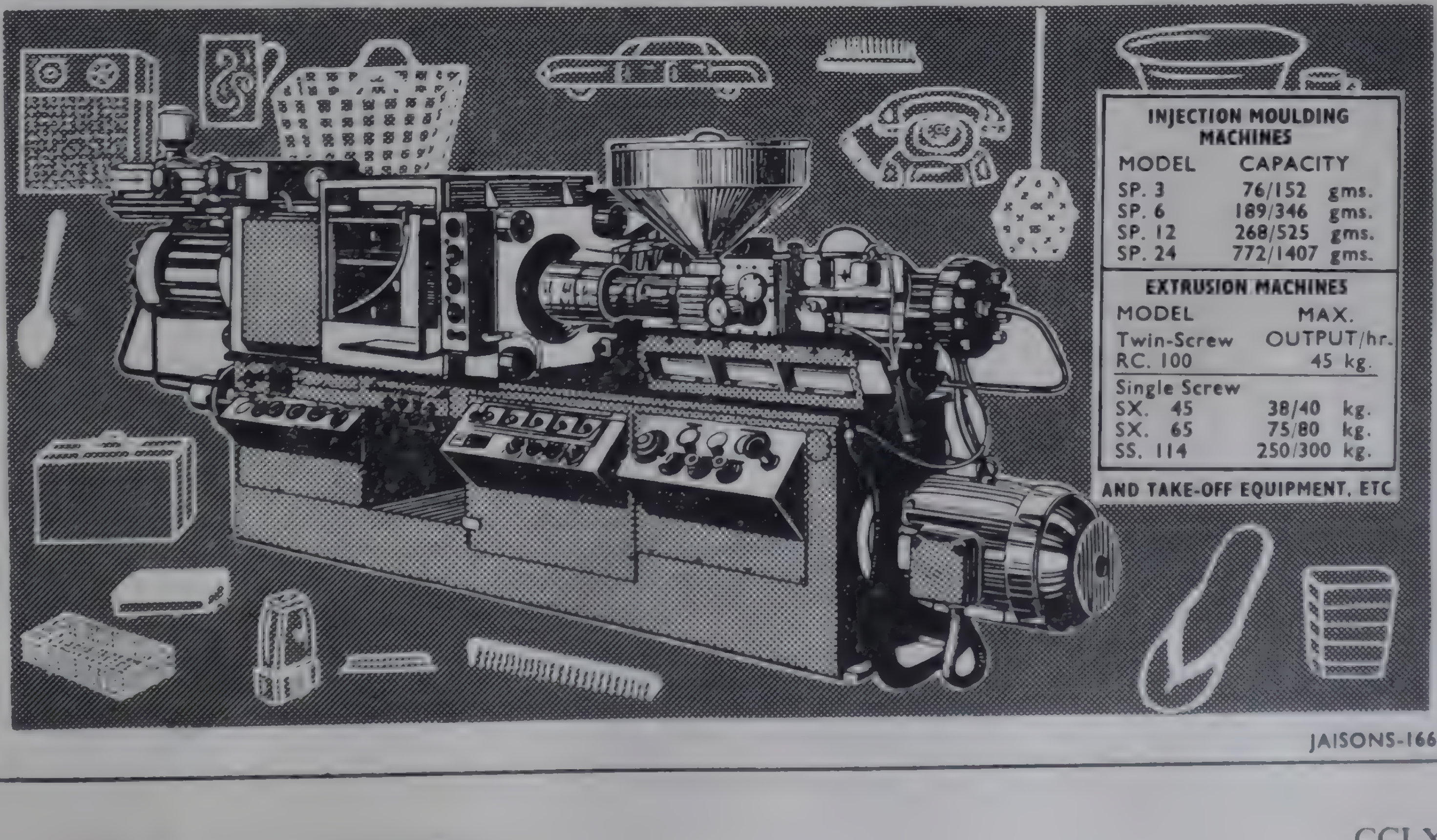

| INJECTION MOULDING MACHINES | |
|---|---|
| MODEL | CAPACITY |
| SP. 3 | 76/152 gms. |
| SP. 6 | 189/346 gms. |
| SP. 12 | 268/525 gms. |
| SP. 24 | 772/1407 gms. |
| **EXTRUSION MACHINES** | |
| MODEL | MAX. OUTPUT/hr. |
| Twin-Screw | |
| RC. 100 | 45 kg. |
| Single Screw | |
| SX. 45 | 38/40 kg. |
| SX. 65 | 75/80 kg. |
| SS. 114 | 250/300 kg. |
| AND TAKE-OFF EQUIPMENT, ETC | |

JAISONS-166

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SAFETY **COOKER**

• ABSOLUTELY NOISELESS, REQUIRES NO SPIRIT • PRE-HEATING NOT NECESSARY • NO PUMPING • NO PINNING • GLASS OIL TANK

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*Vertical:*
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*Manufacturers:*

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**DUELY HEAT-TREATED**
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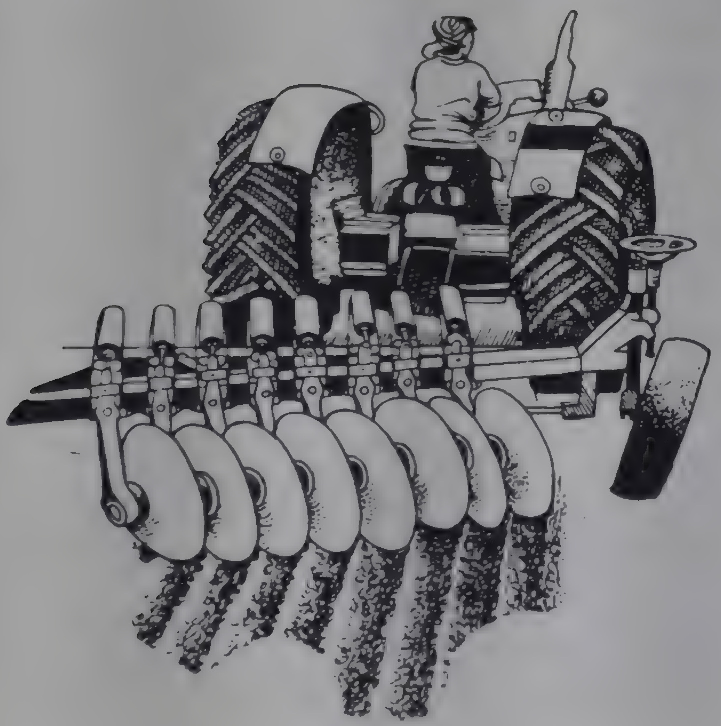

RAJAT BOW & ARROW
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- are on approved list of D.G.S. & D.
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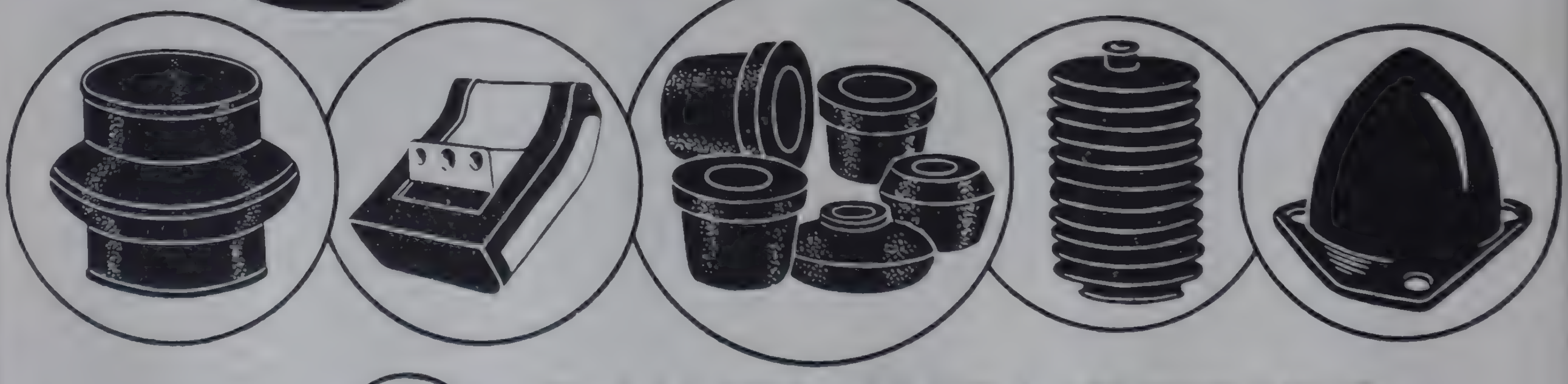
- are being exported to many countries.
- are favourite in the replacement market throughout India.



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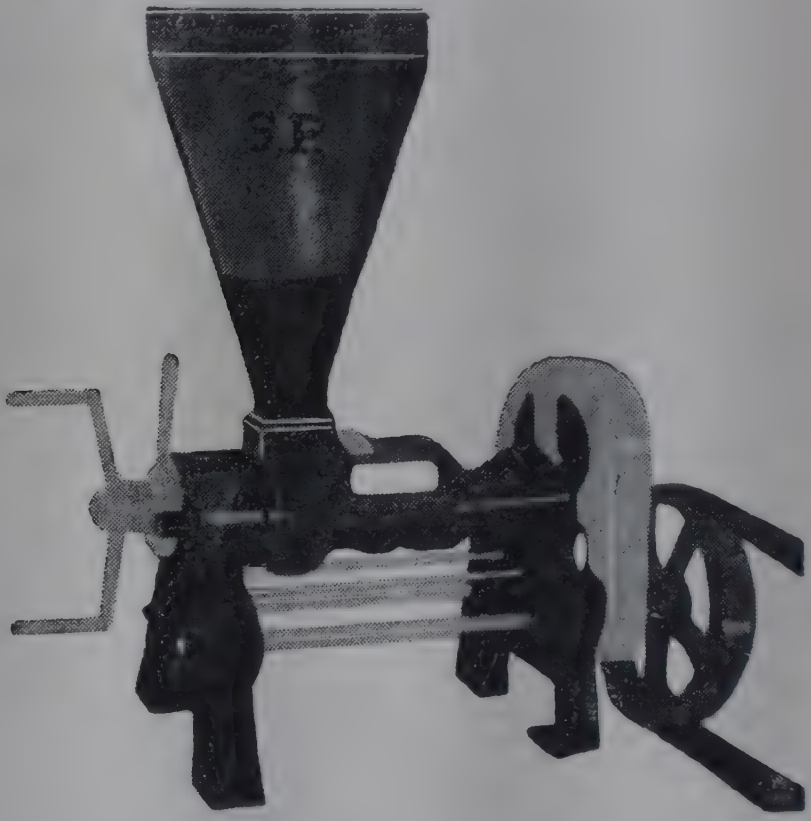

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and
works with 3 HP only and crushes
nearly 3/4 ton oil seeds per day.

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*Factory:* 27-A, Modern Industrial Estate,
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Residence: 2704

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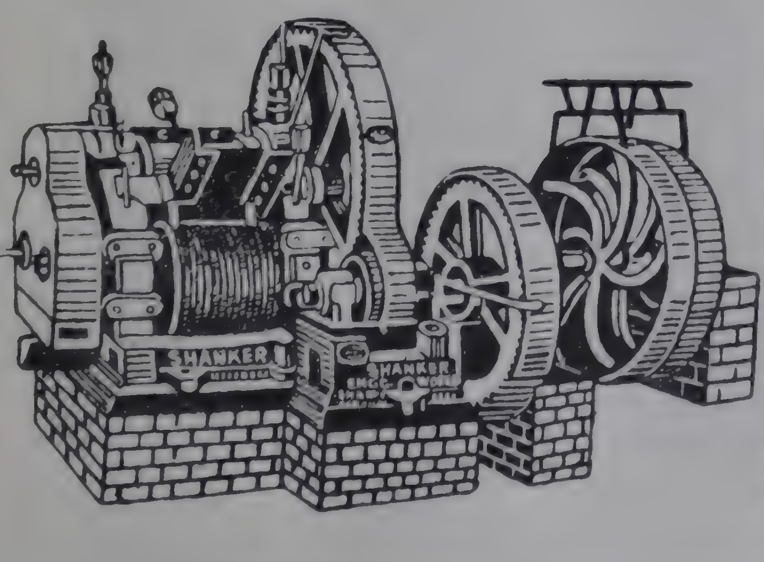

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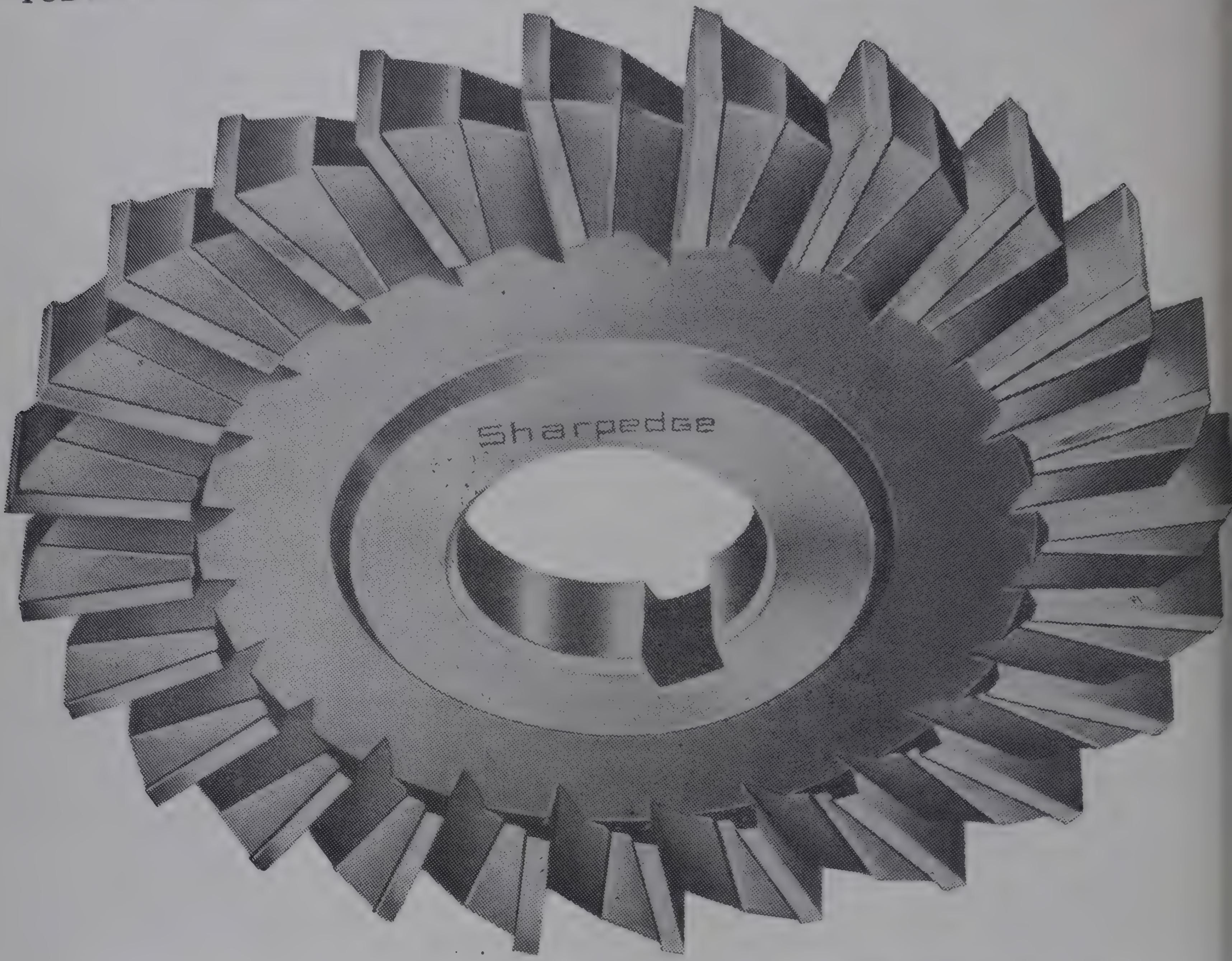

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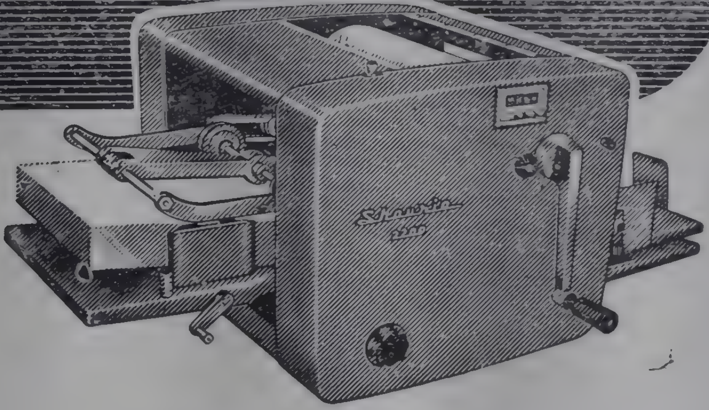

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*Established* 1934

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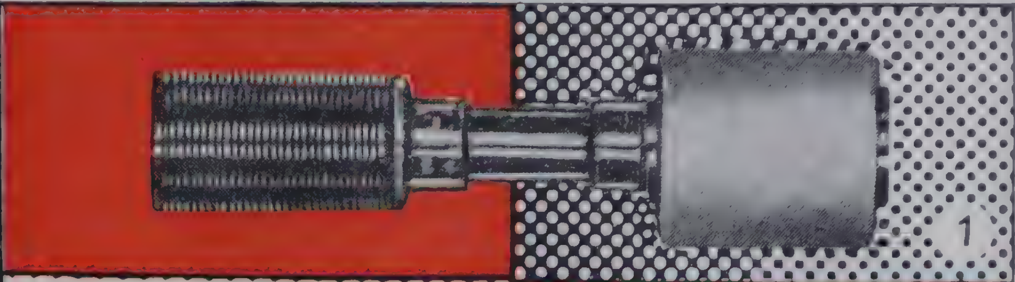
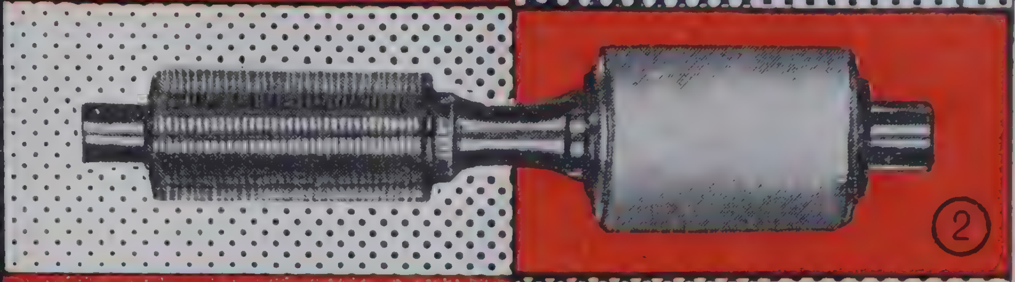
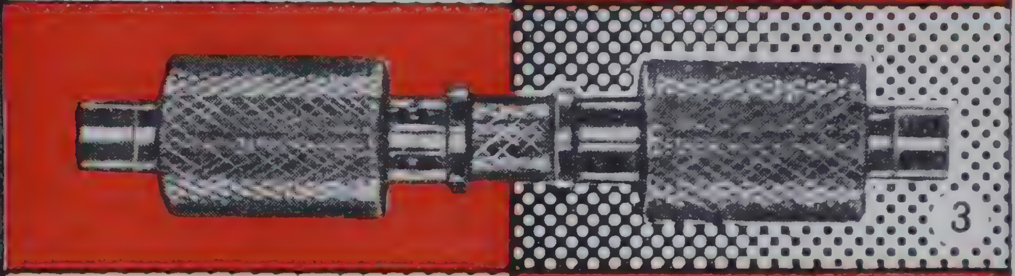


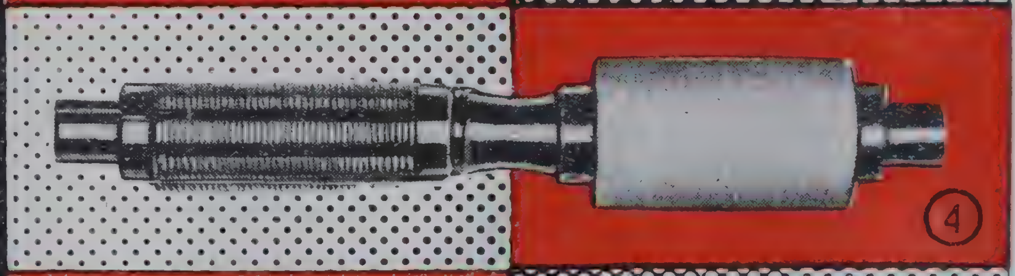
② Top Roller for Cotton Ring Spinning Frames with Cap Bar.



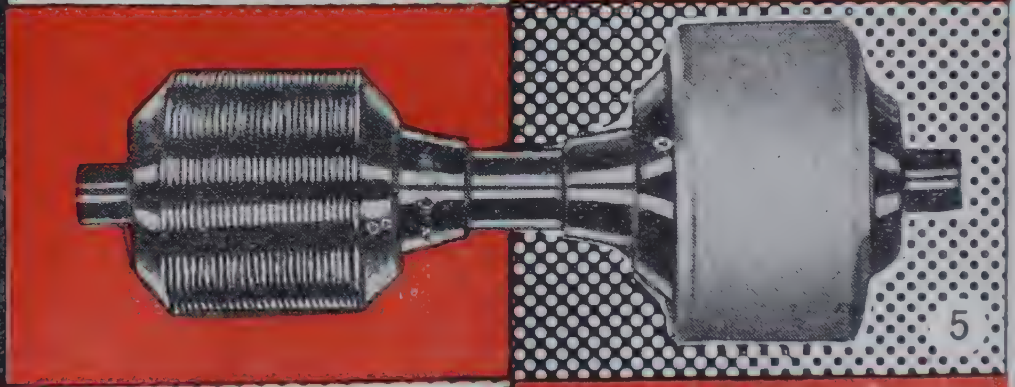
③ KNURLED Middle Top Roller.



④ Top Roller for Speed Frames with Cap Bars.
(can also be supplied with pendulum guide).



⑤ Top Roller for Worsted Ring Spinning Frames with Cap Bars. (can also be supplied with pendulum guide).



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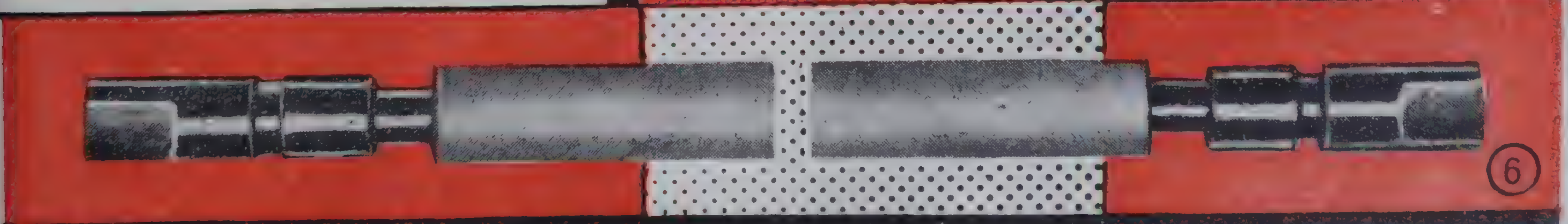

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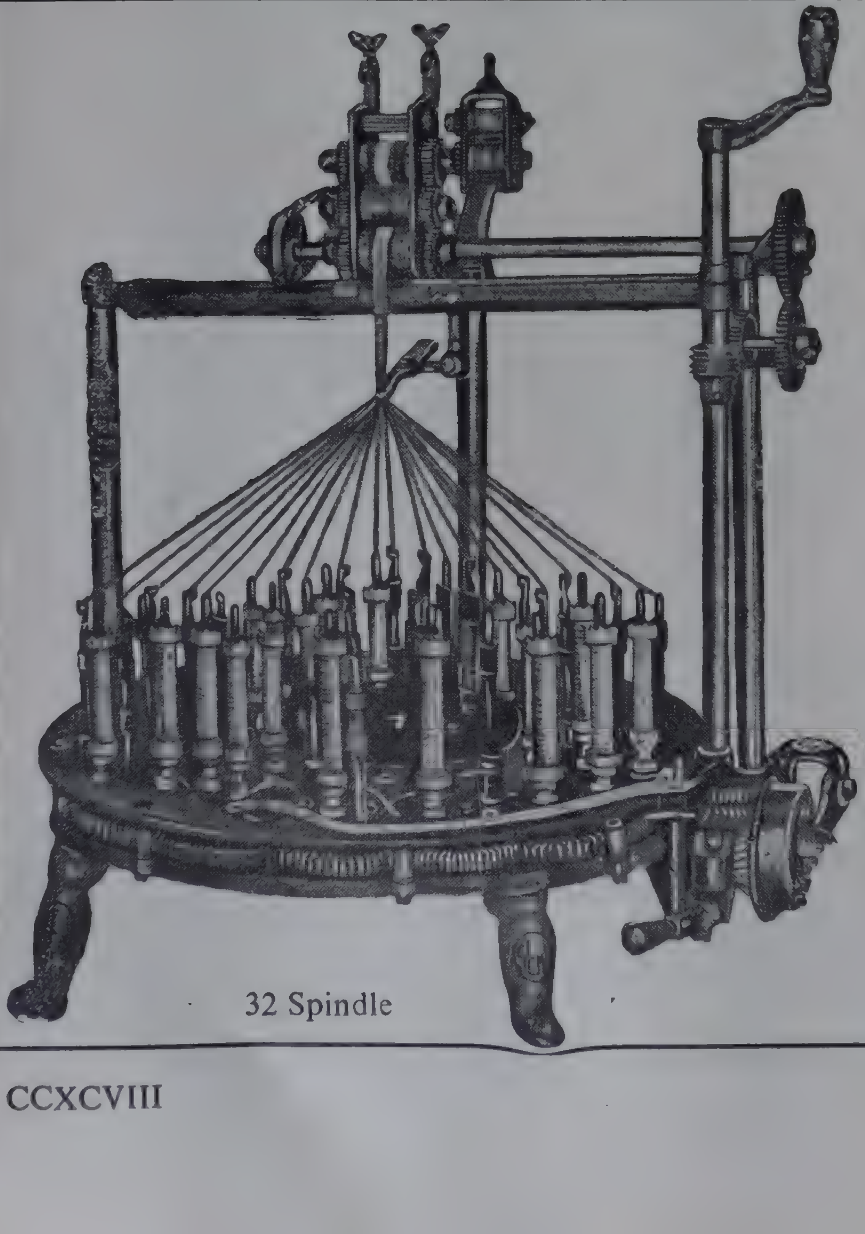

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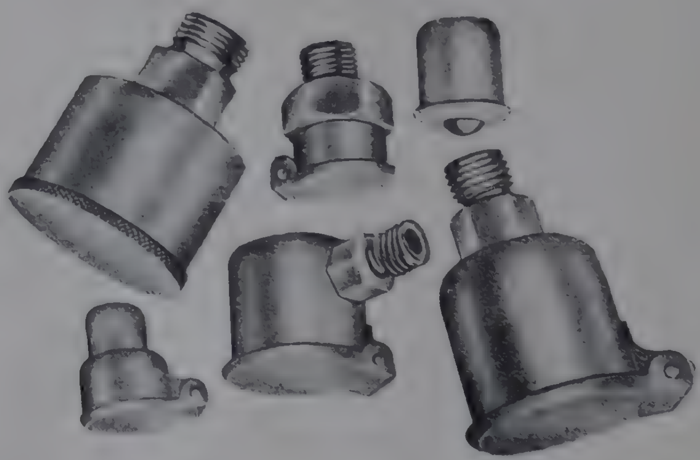

*Phone No. :* **514**

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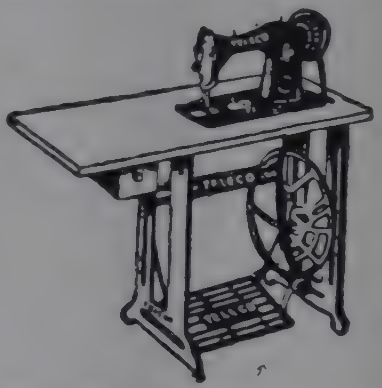

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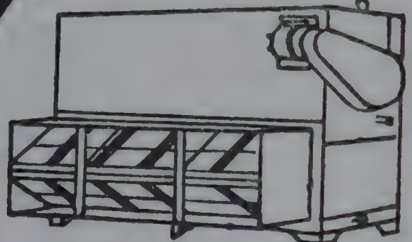

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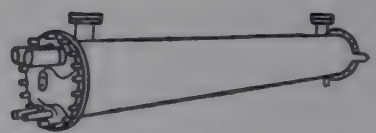

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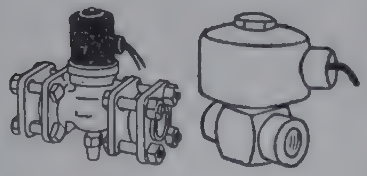

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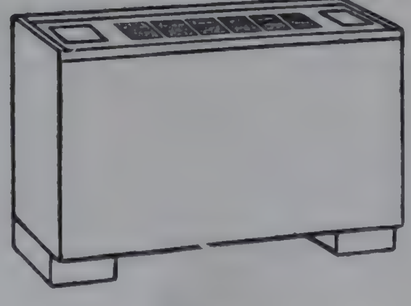

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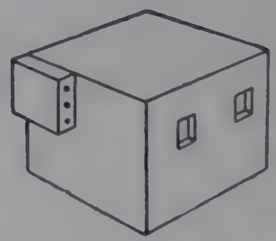

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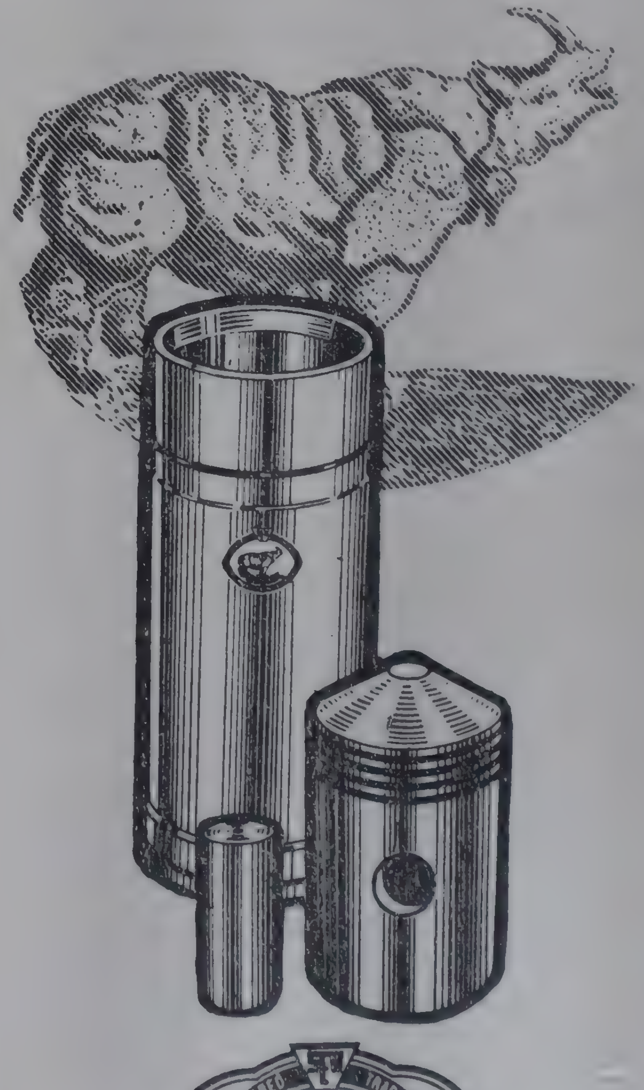

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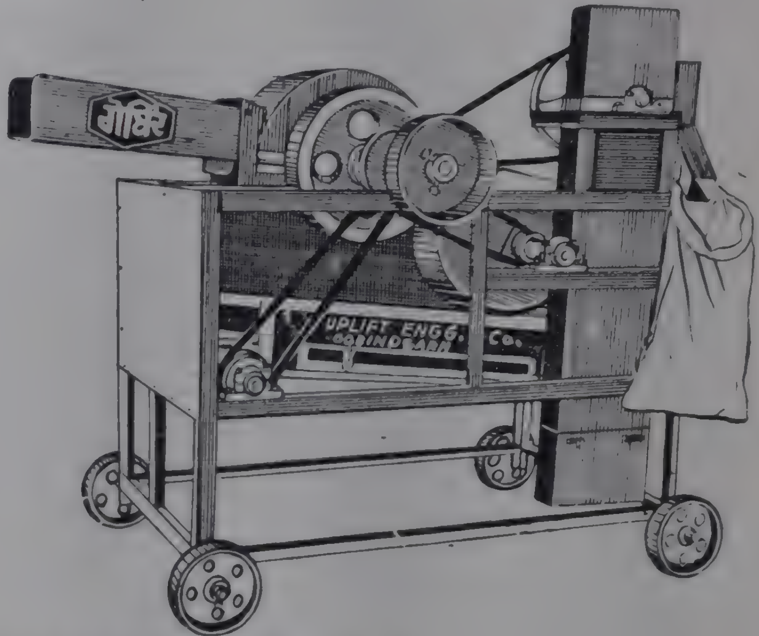

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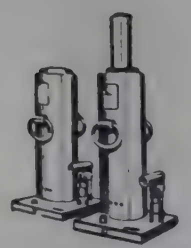

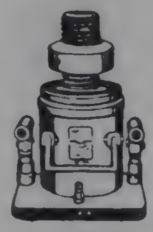

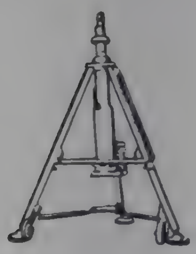

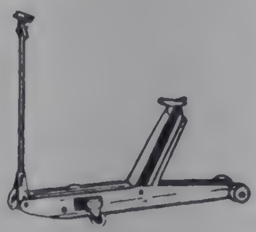

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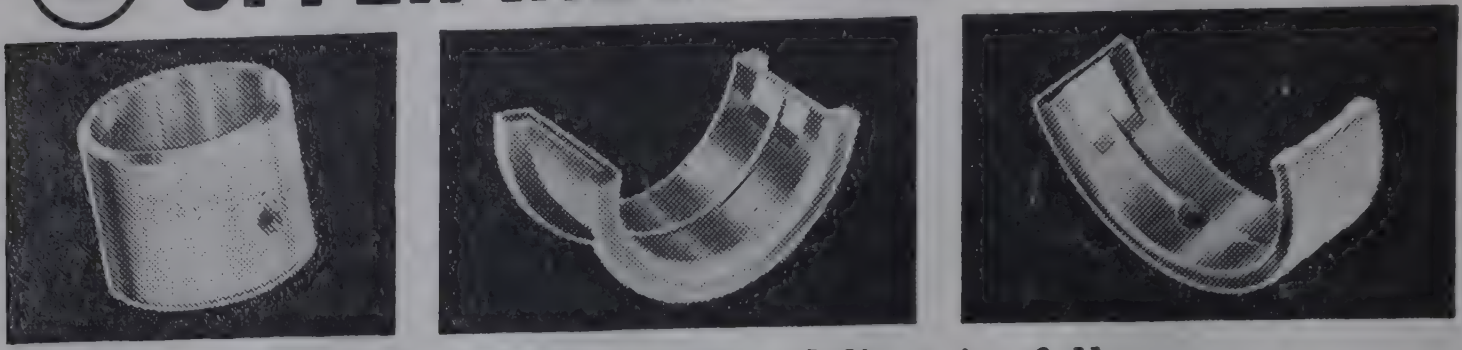

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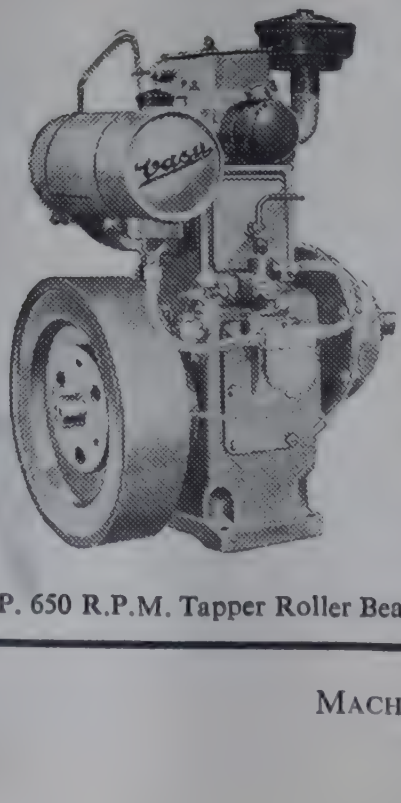

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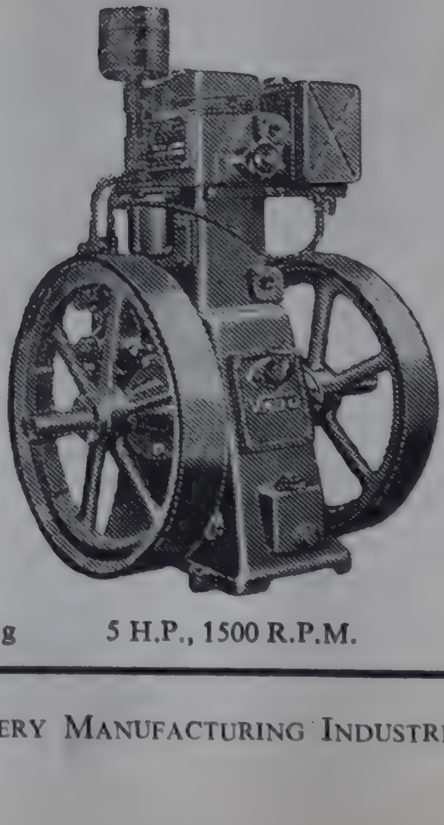

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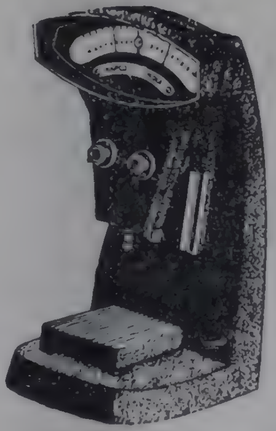

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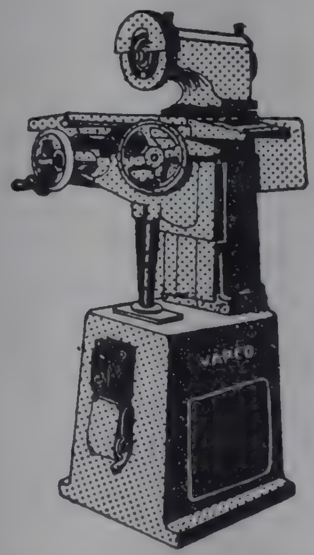

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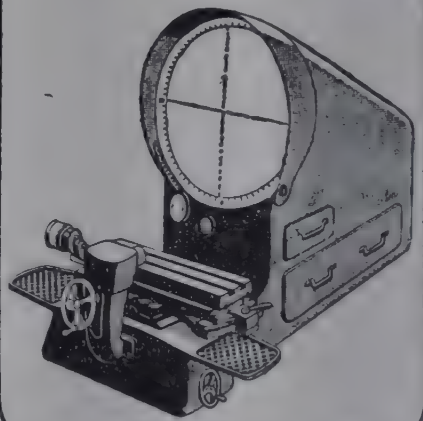

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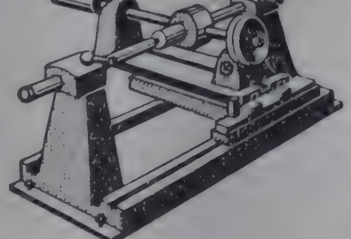

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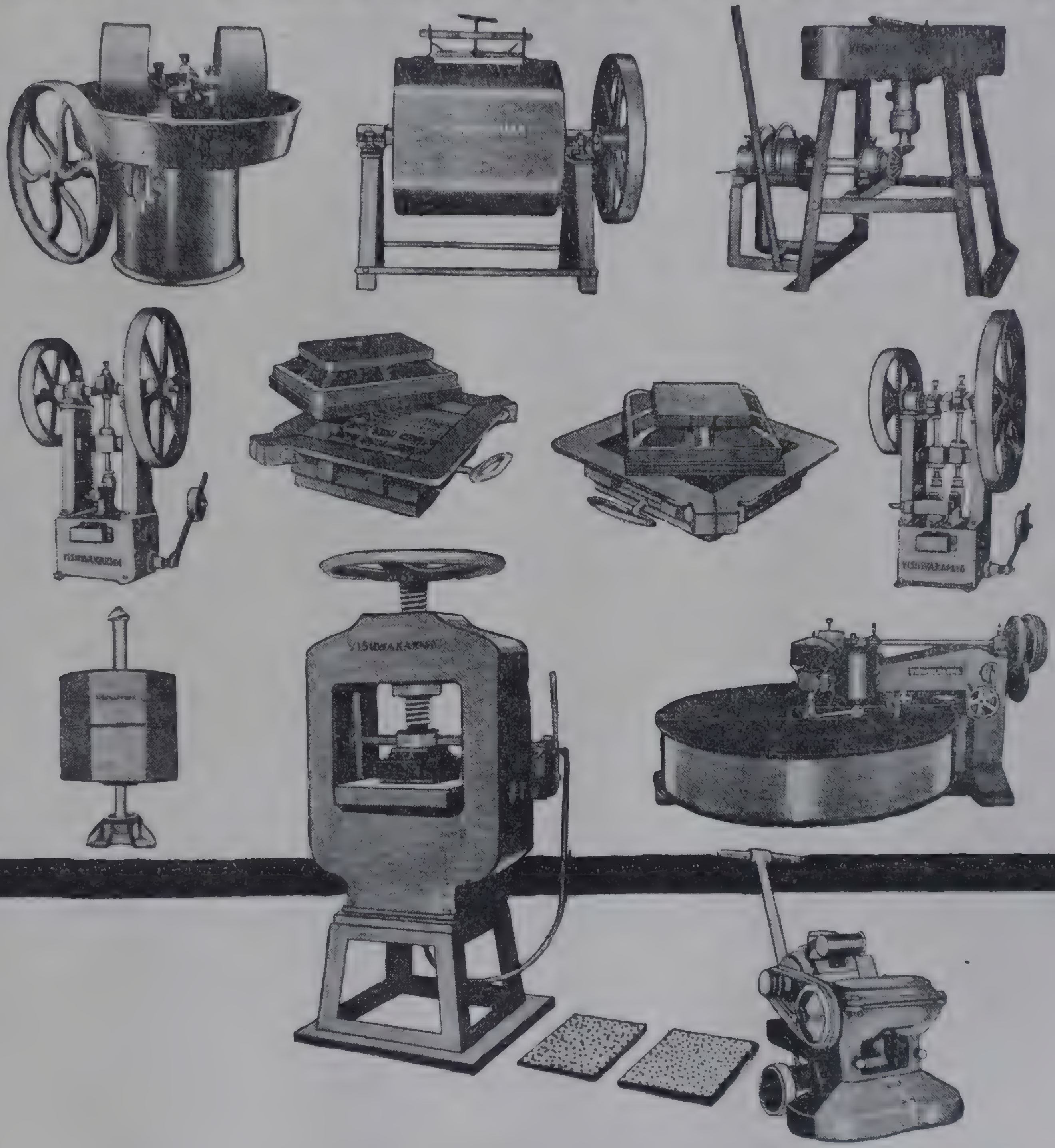

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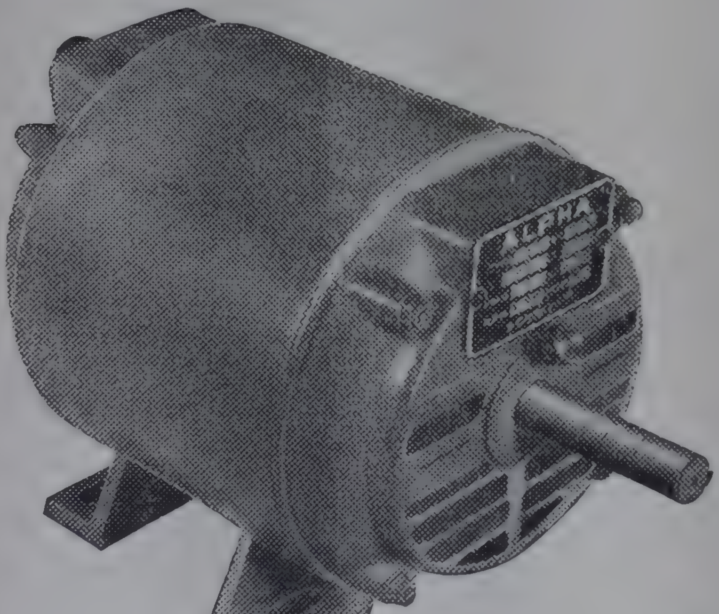

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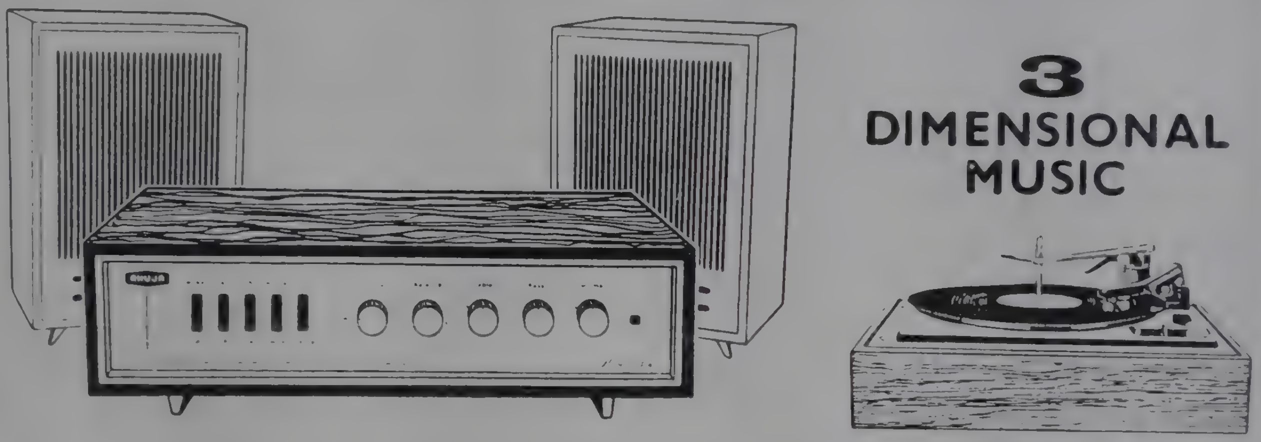

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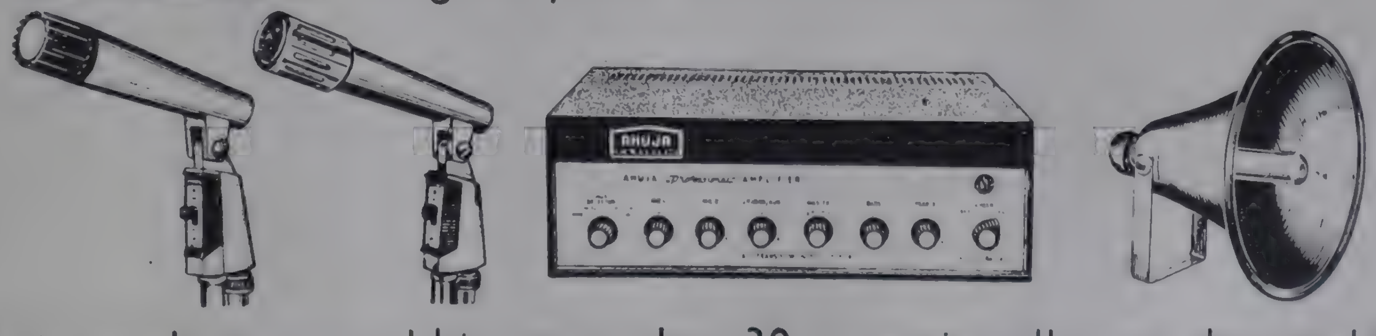

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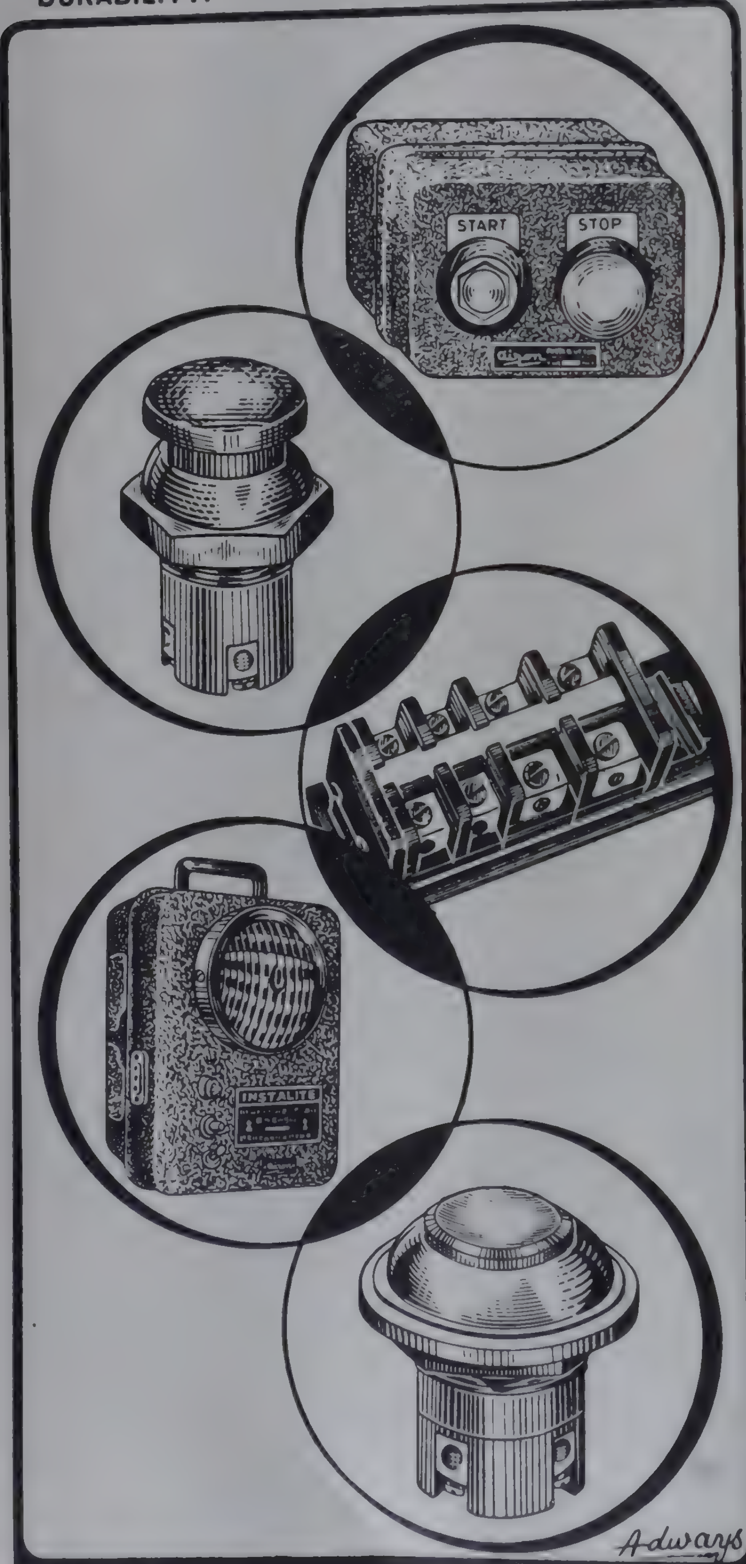

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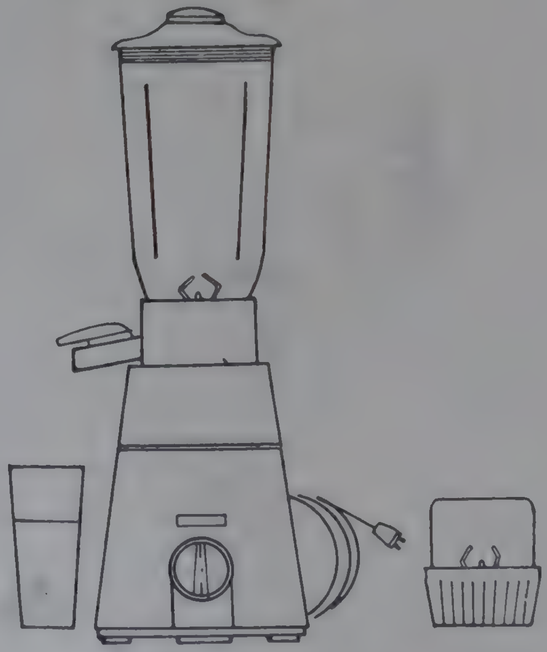

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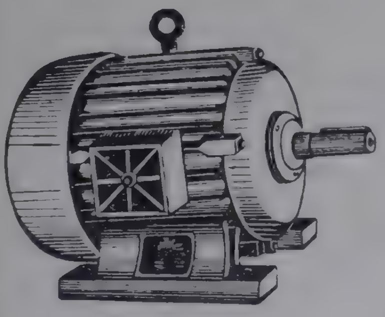

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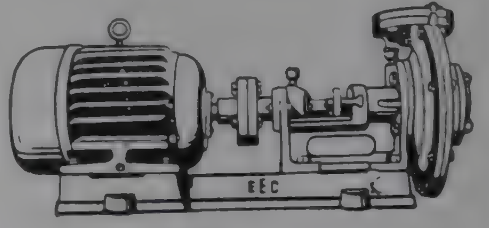

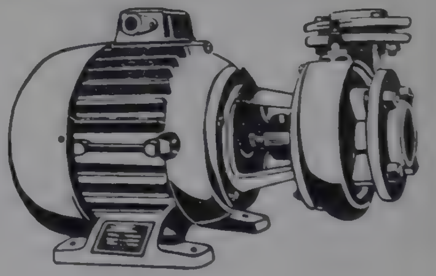

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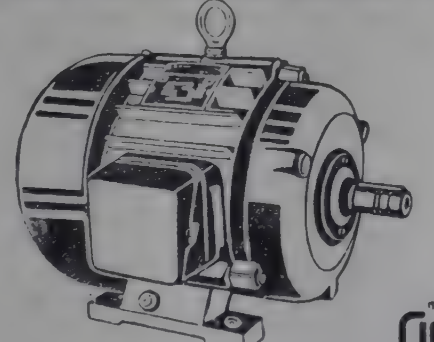

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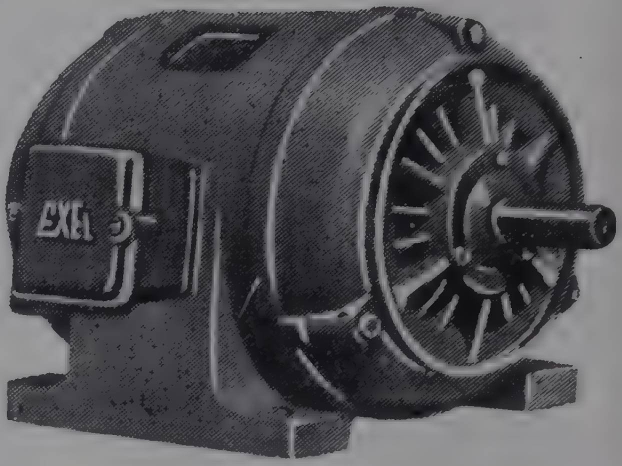

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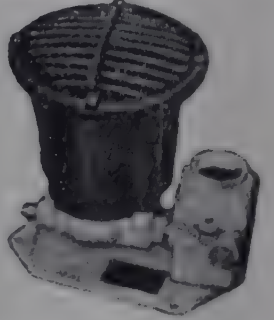
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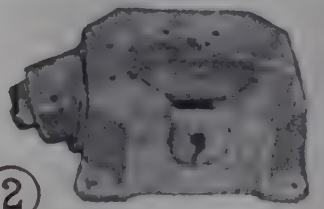
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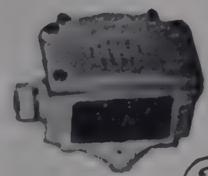
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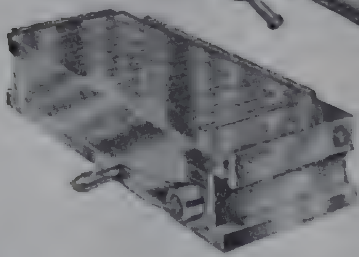
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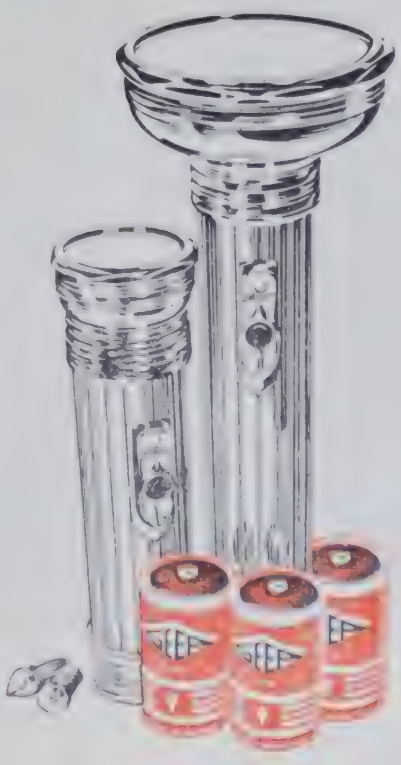

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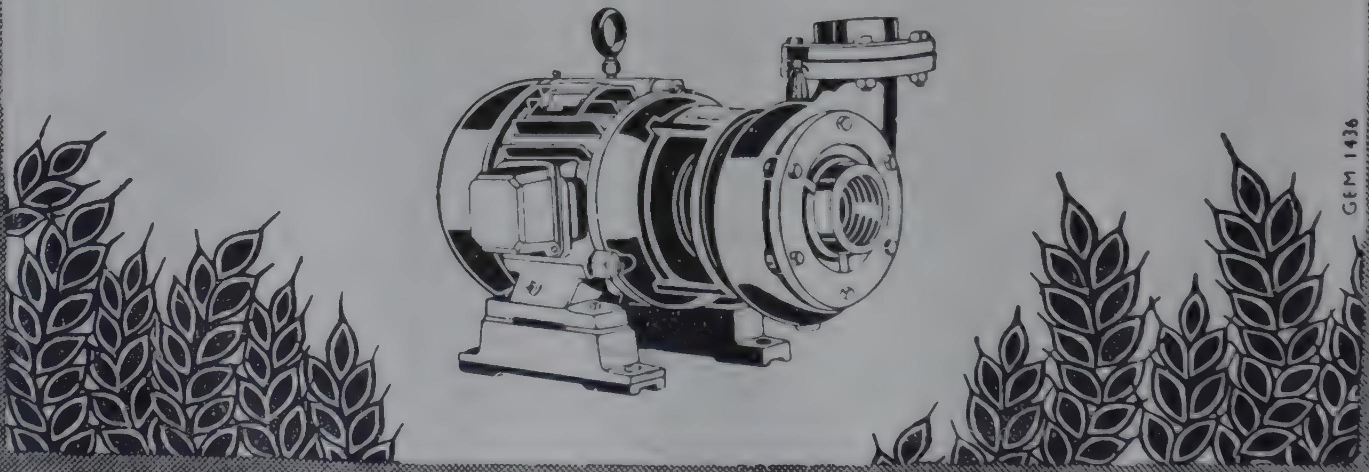

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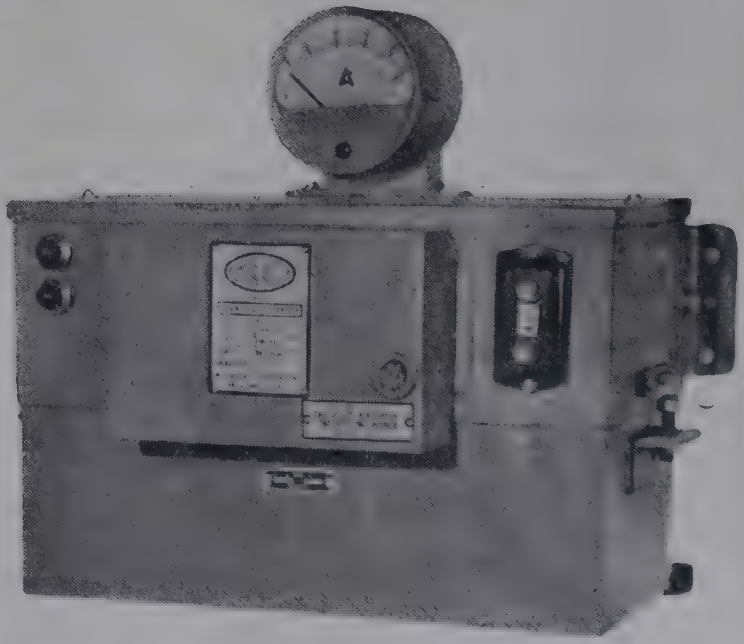

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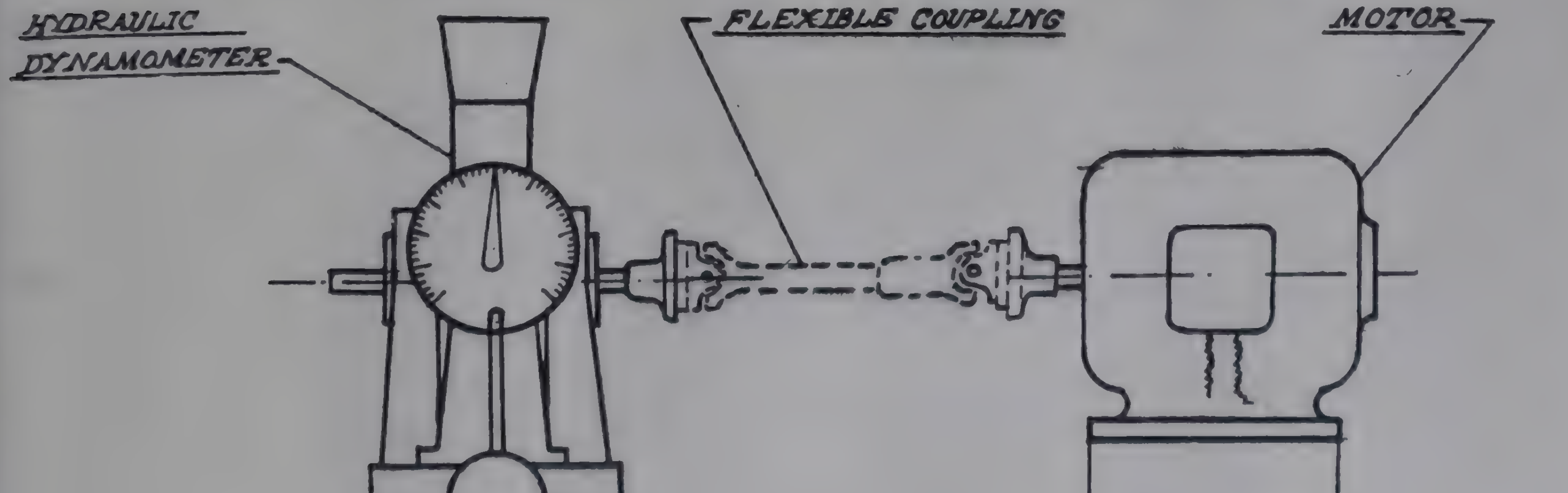

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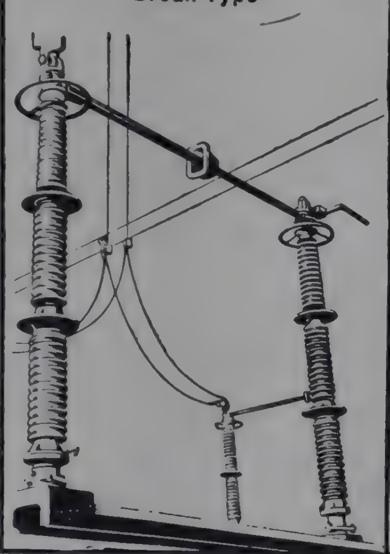
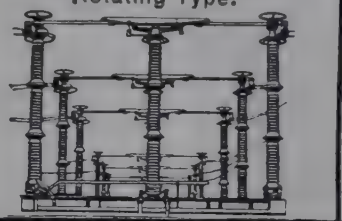
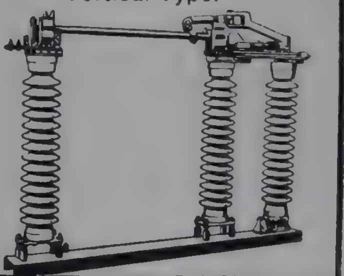


THR-Rotating Blade 3-Post Double-Break Centre Post Rotating Type.



TVR-3-Post-End Post Rotating Vertical Type.



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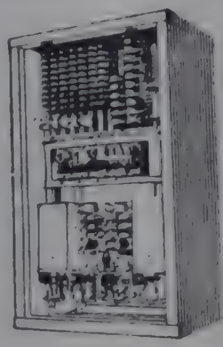

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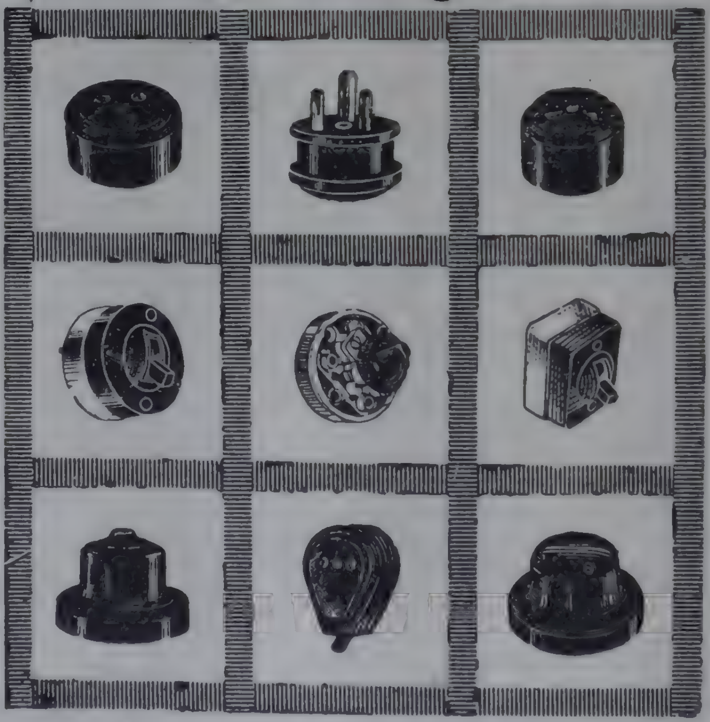

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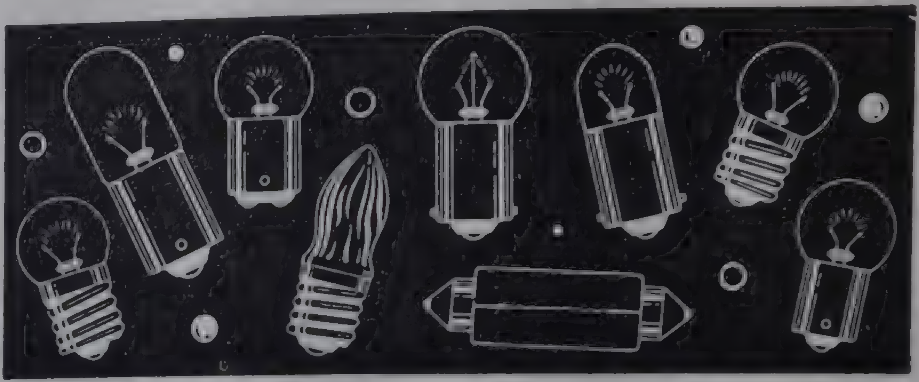

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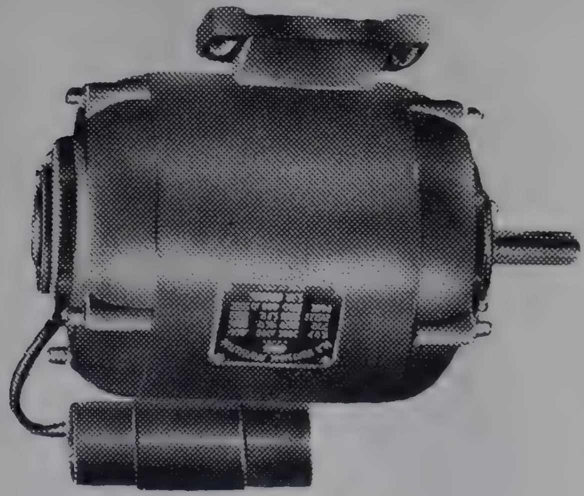

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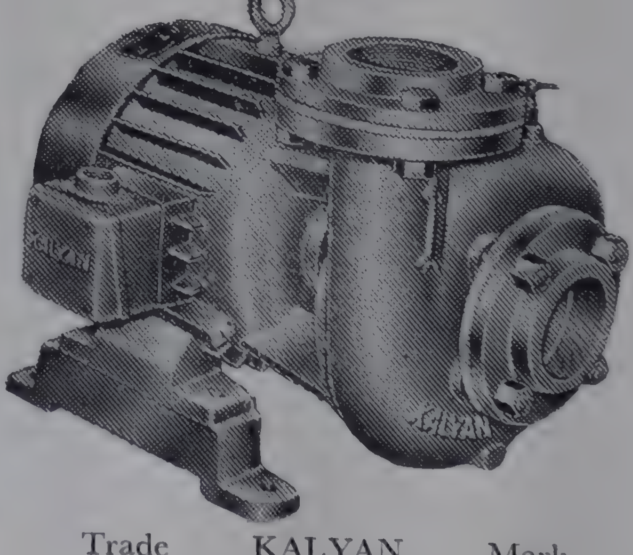

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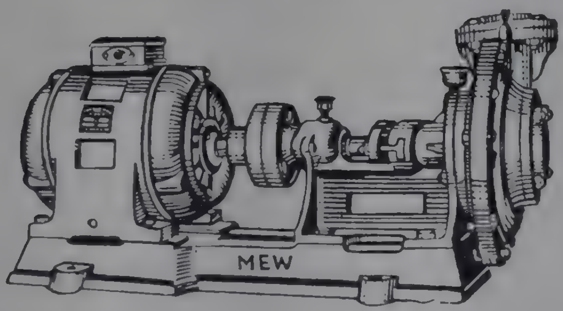

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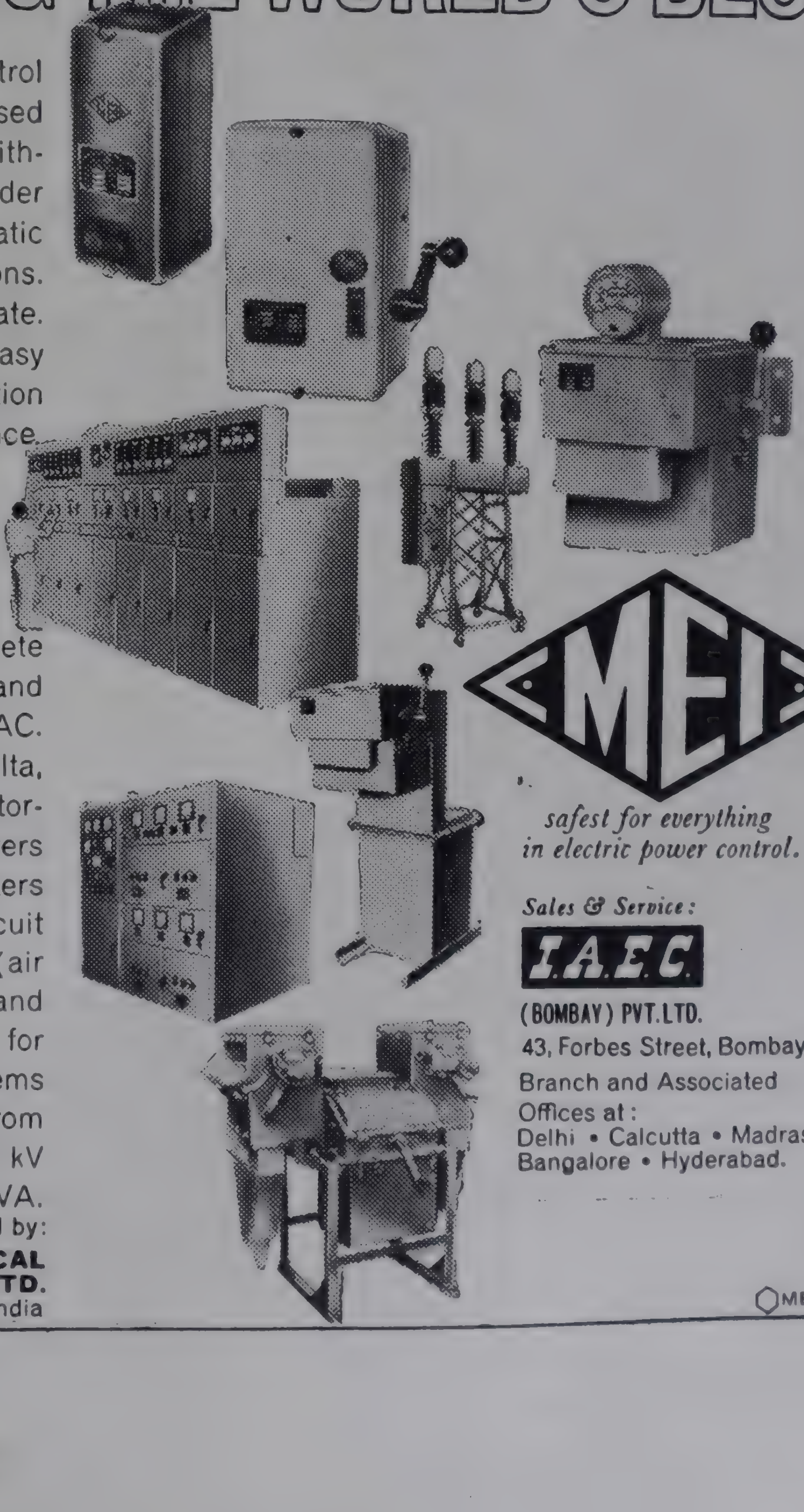

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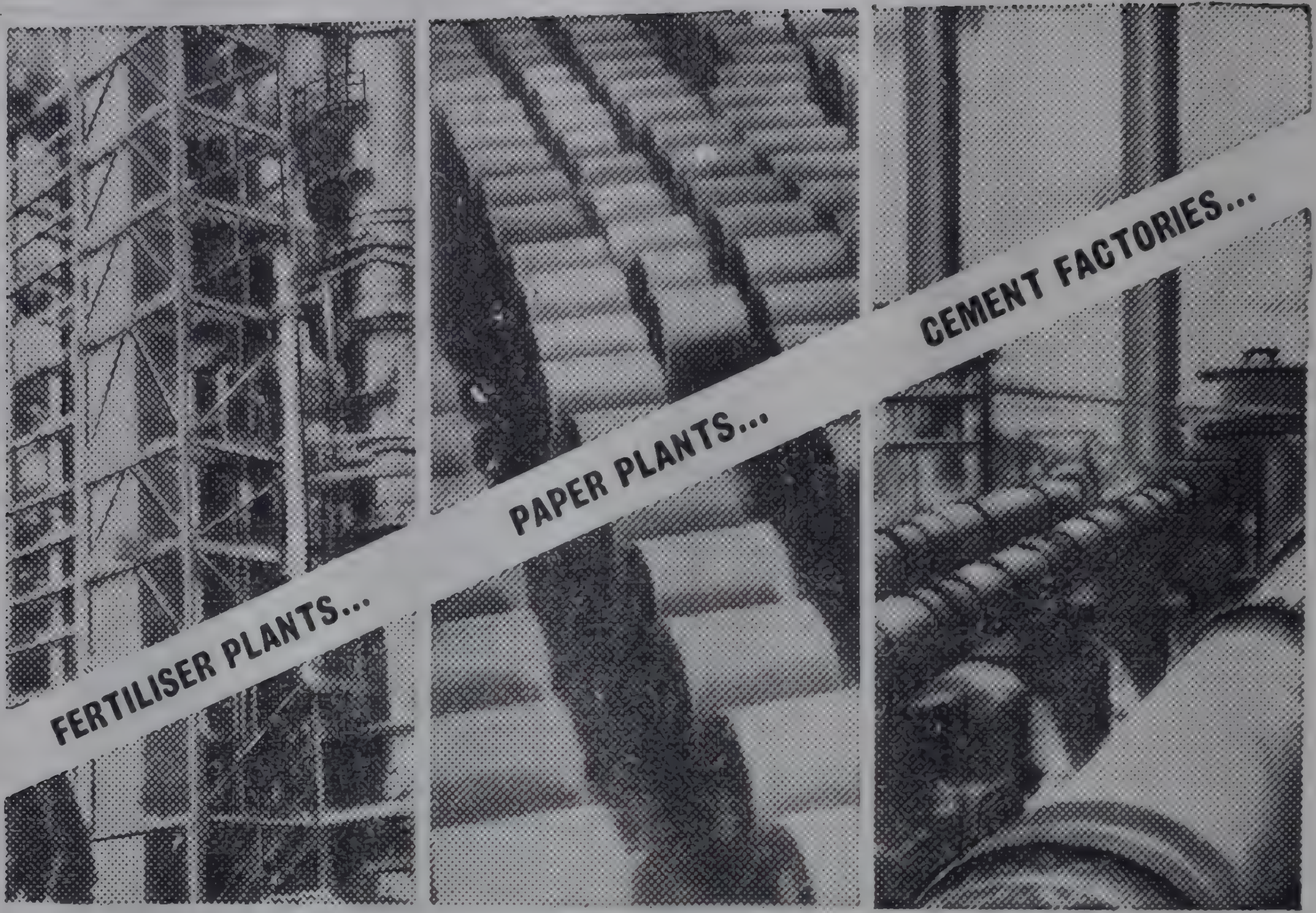

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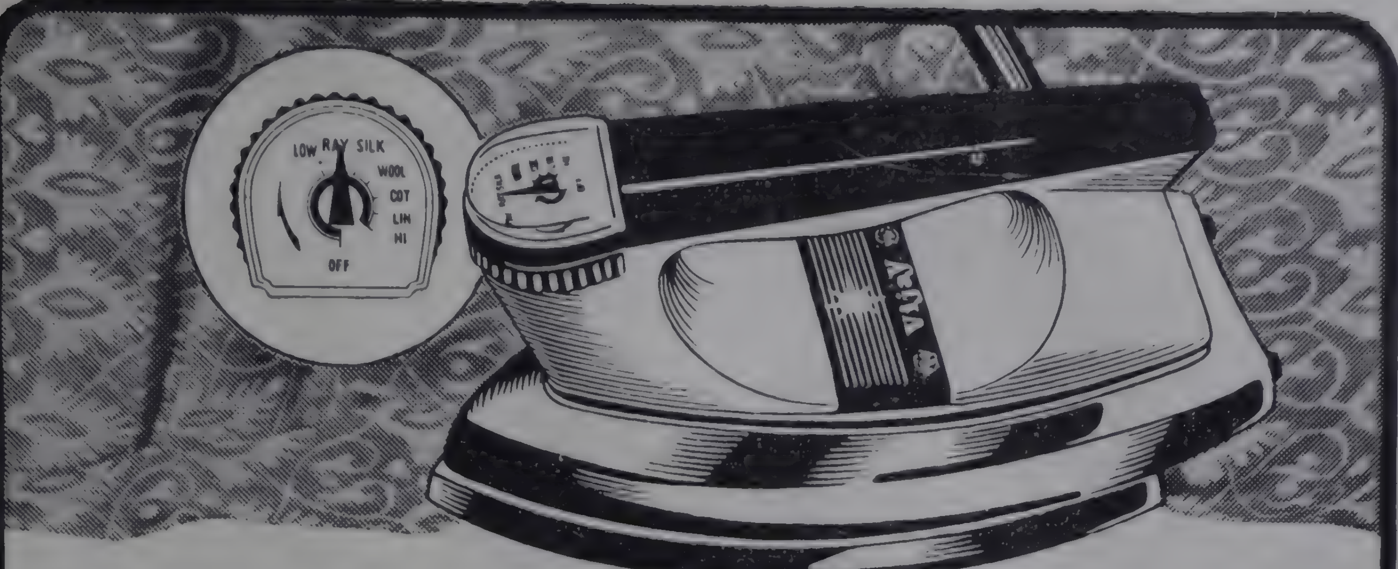

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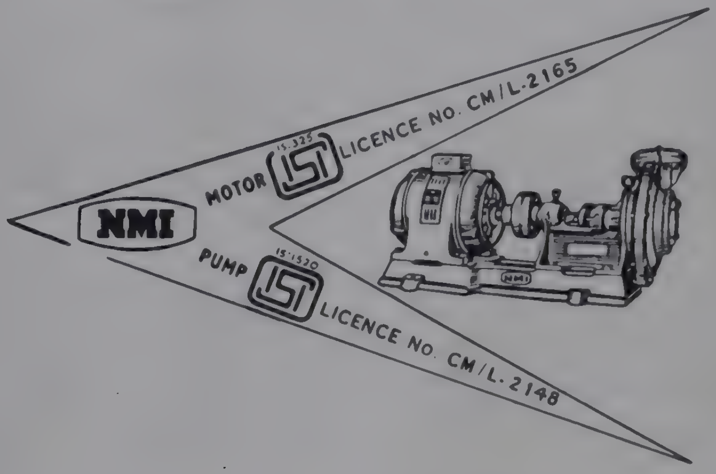

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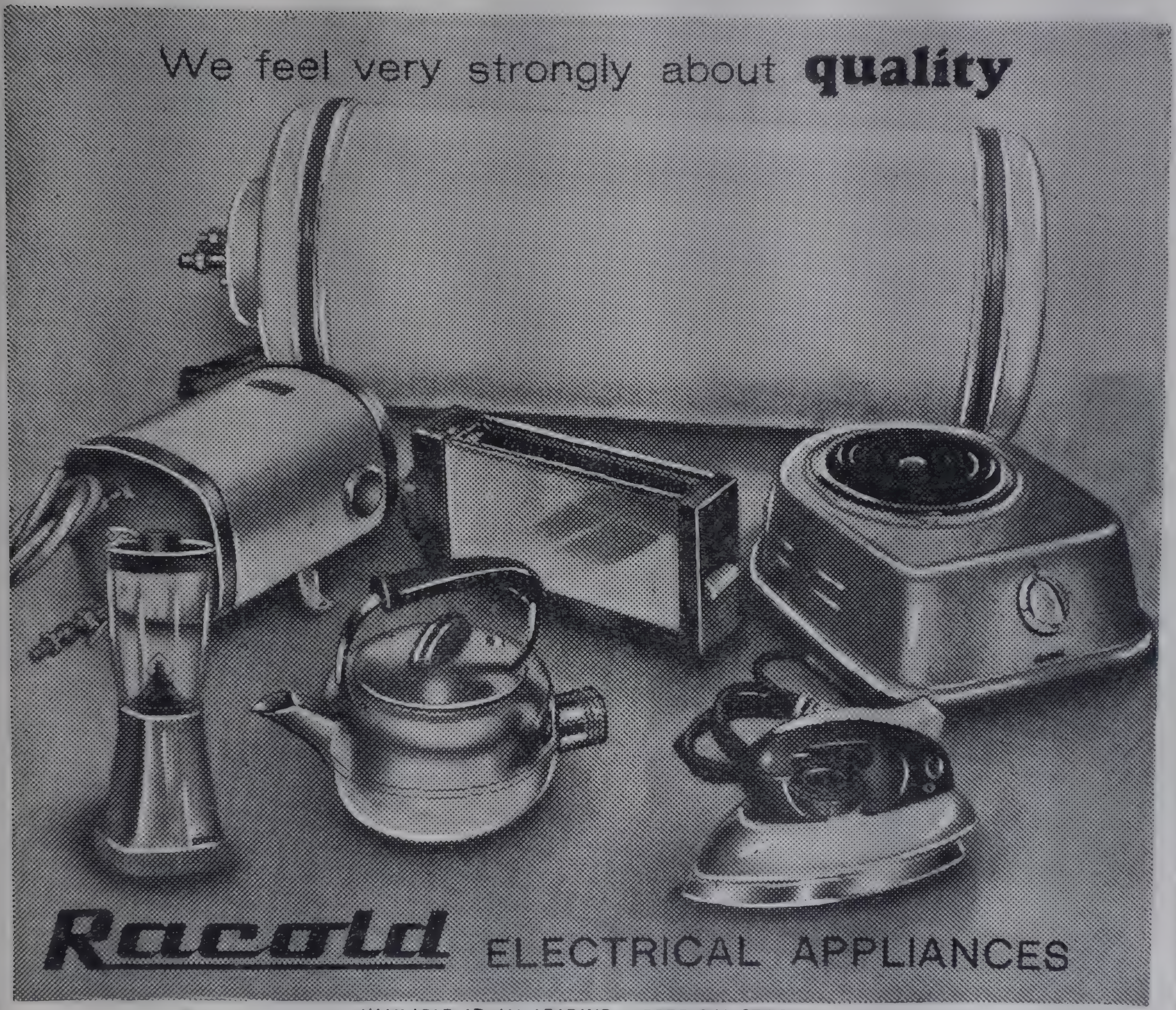
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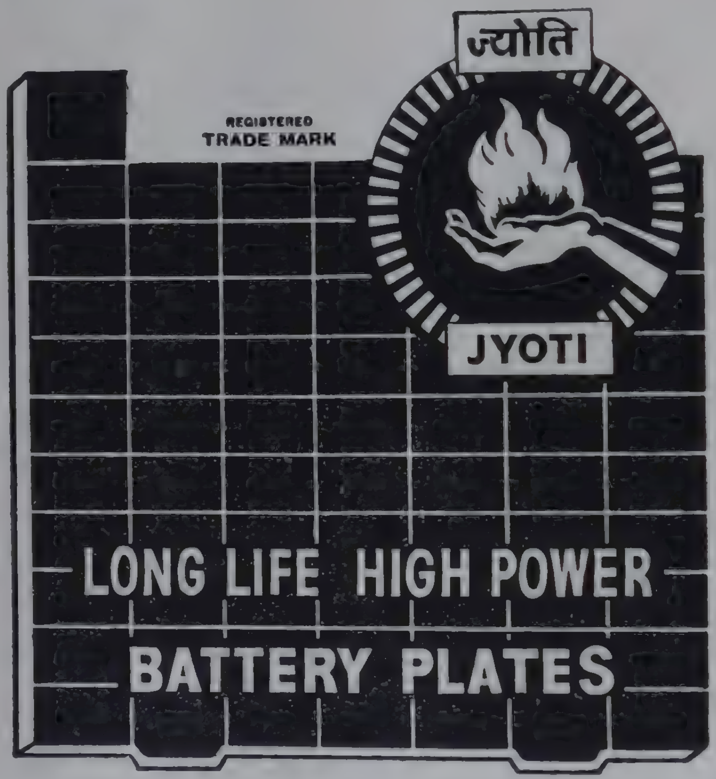

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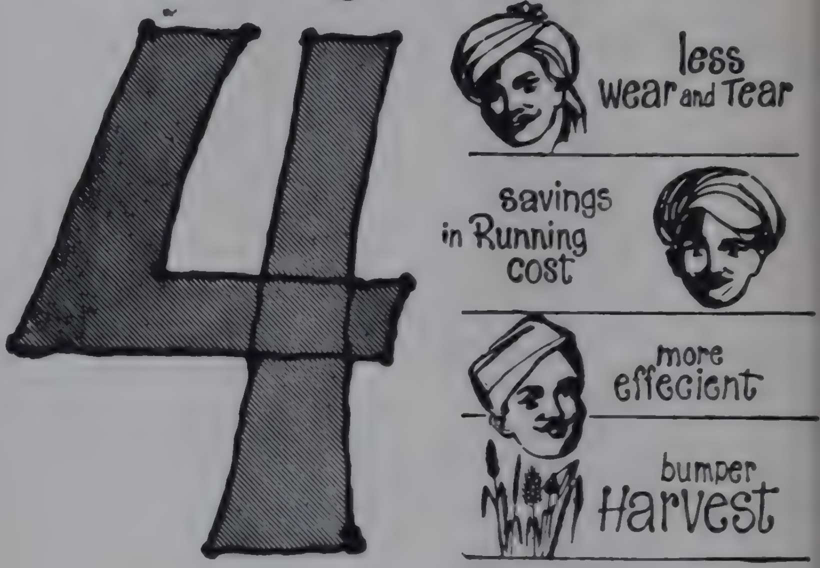

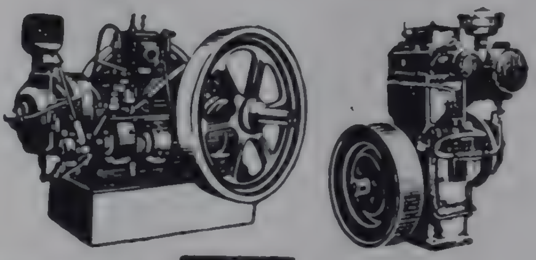

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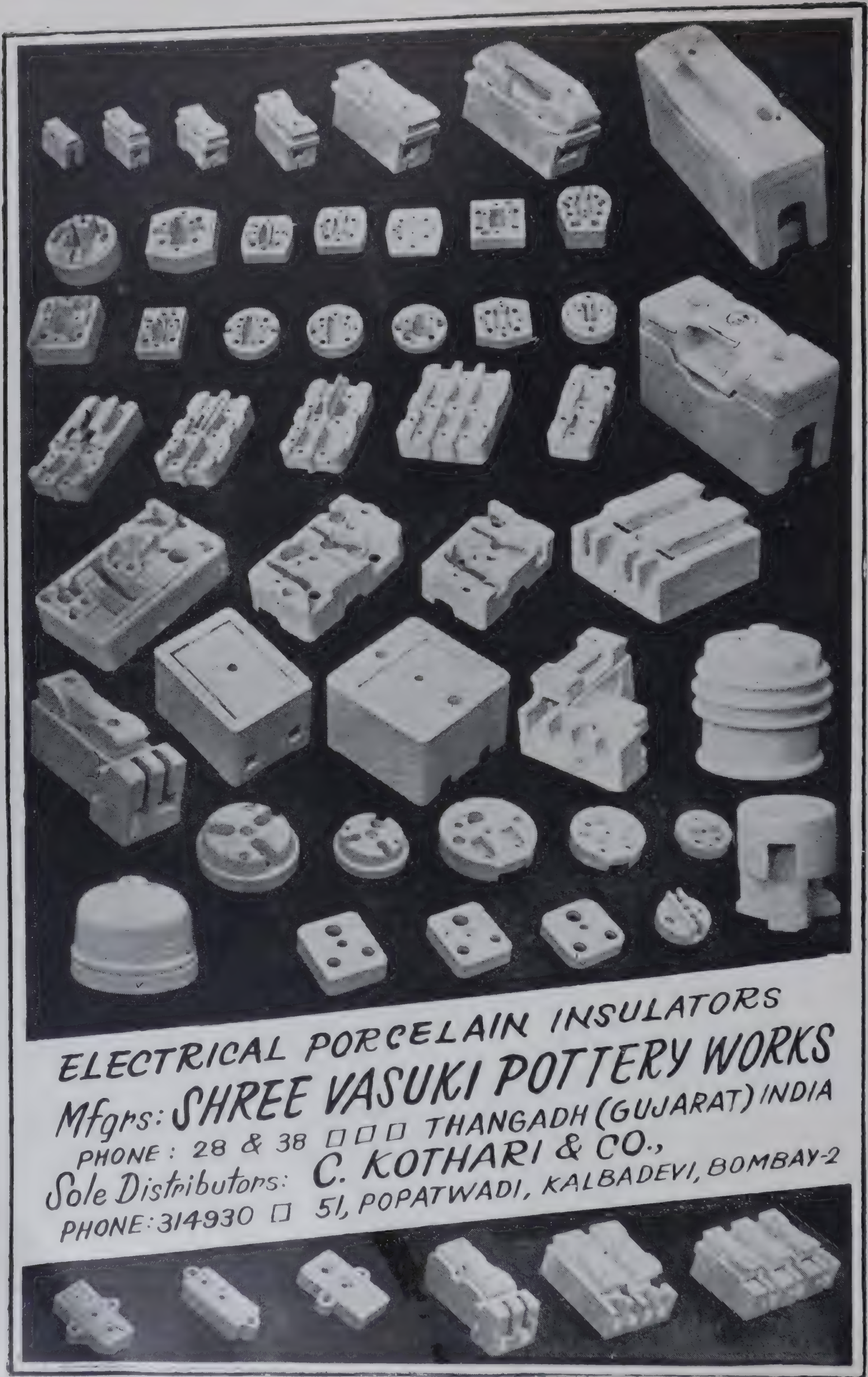

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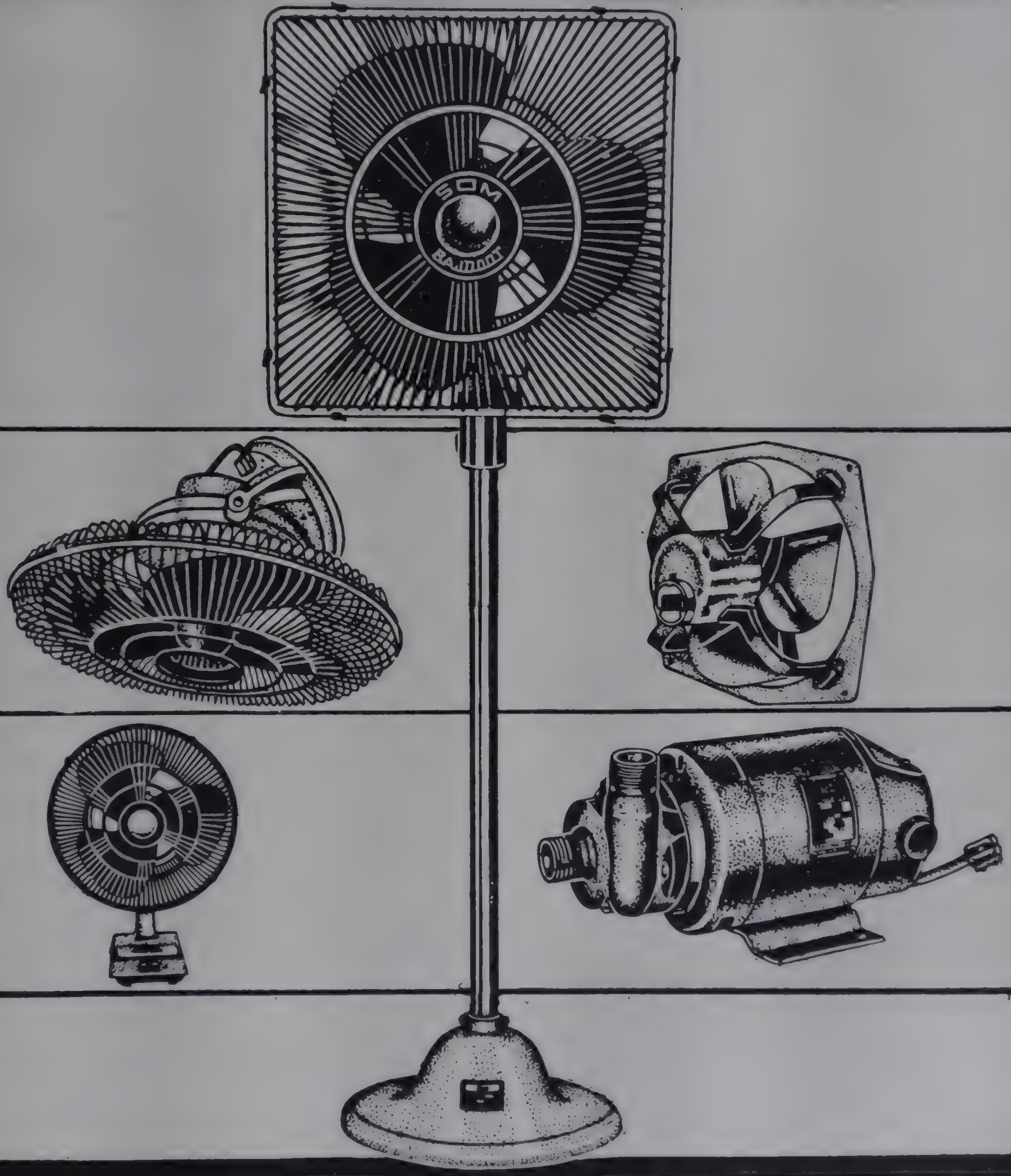

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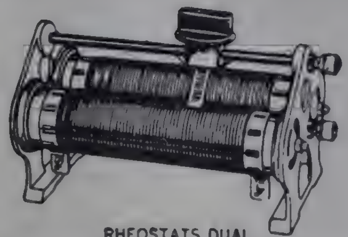

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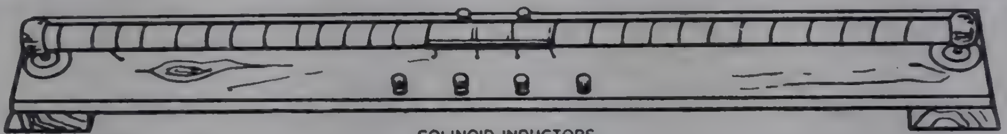

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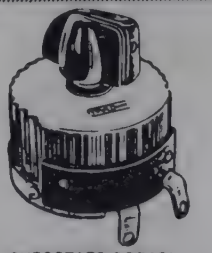

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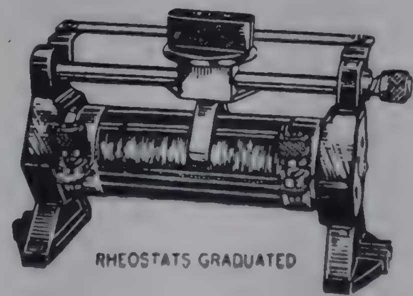

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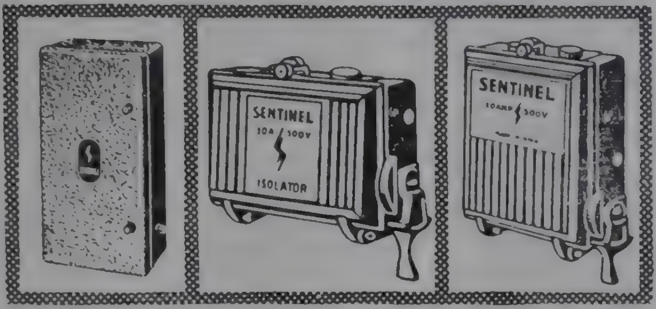

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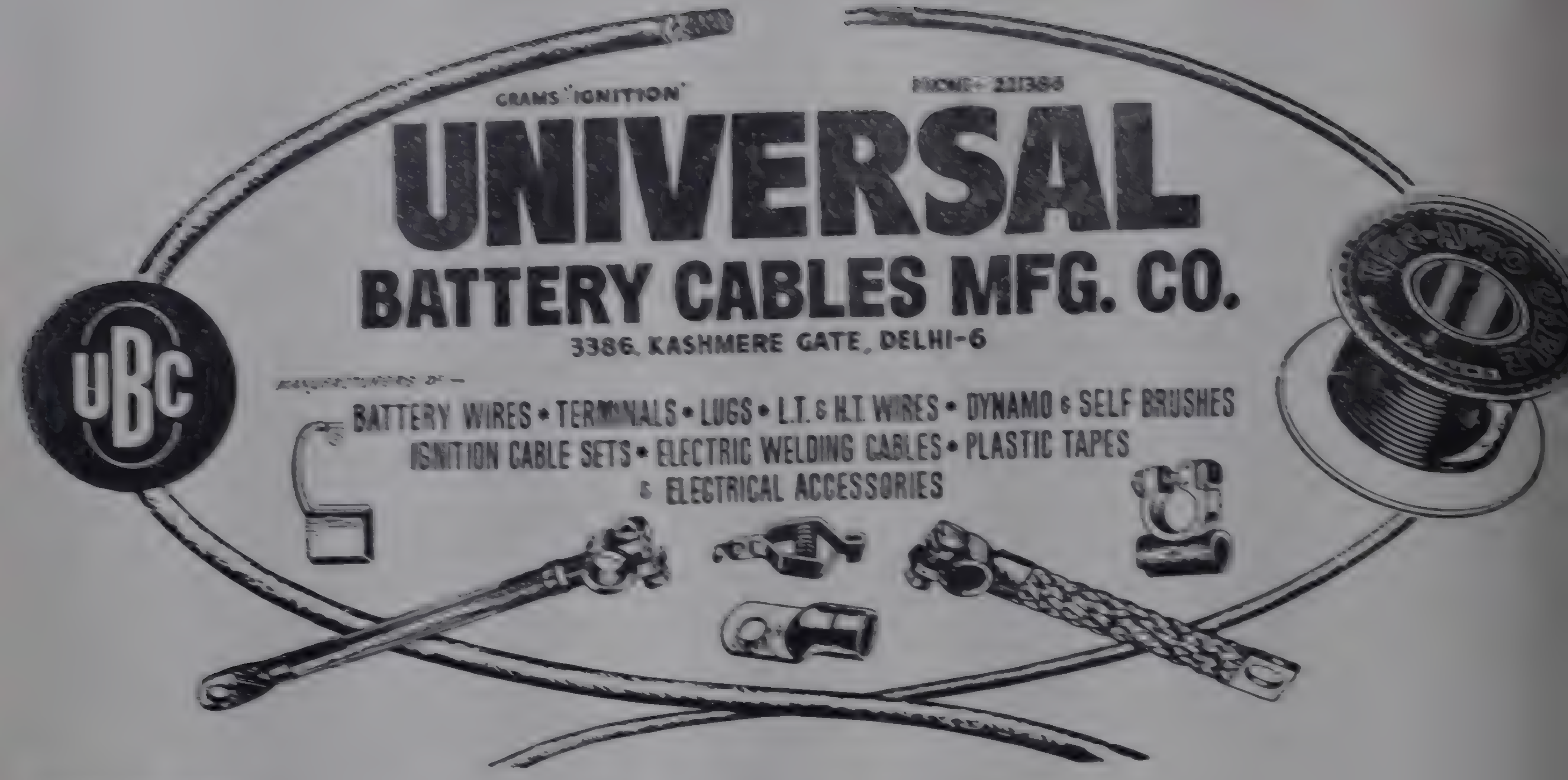

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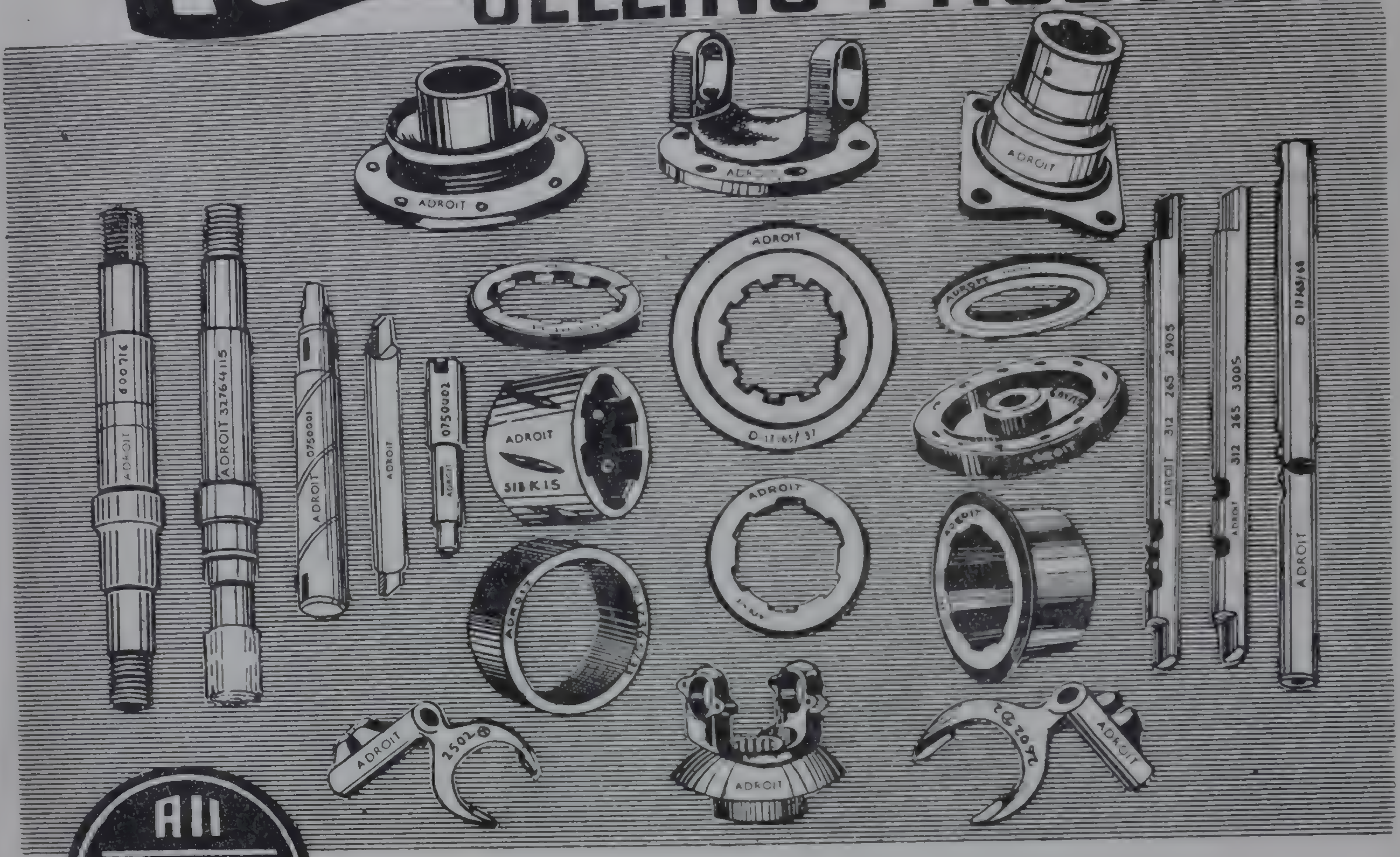

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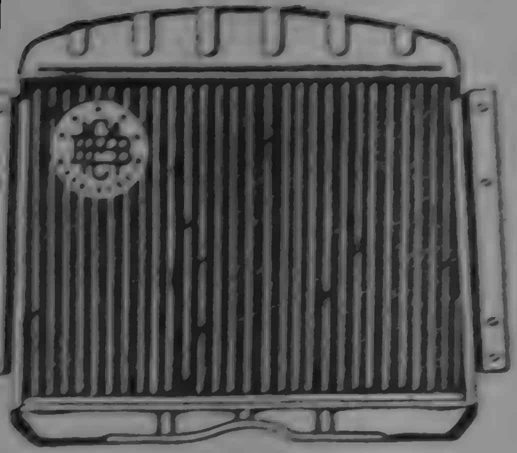

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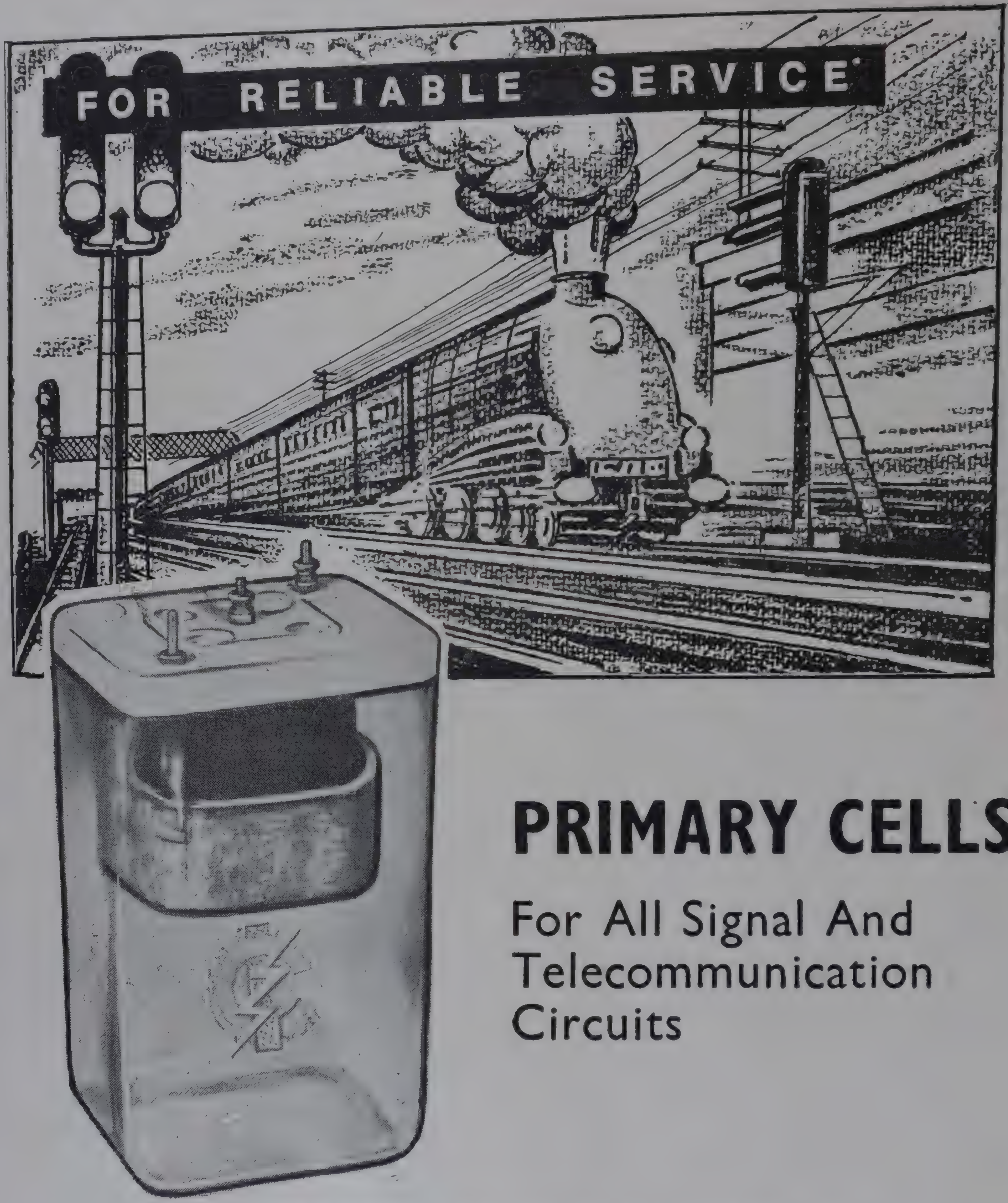

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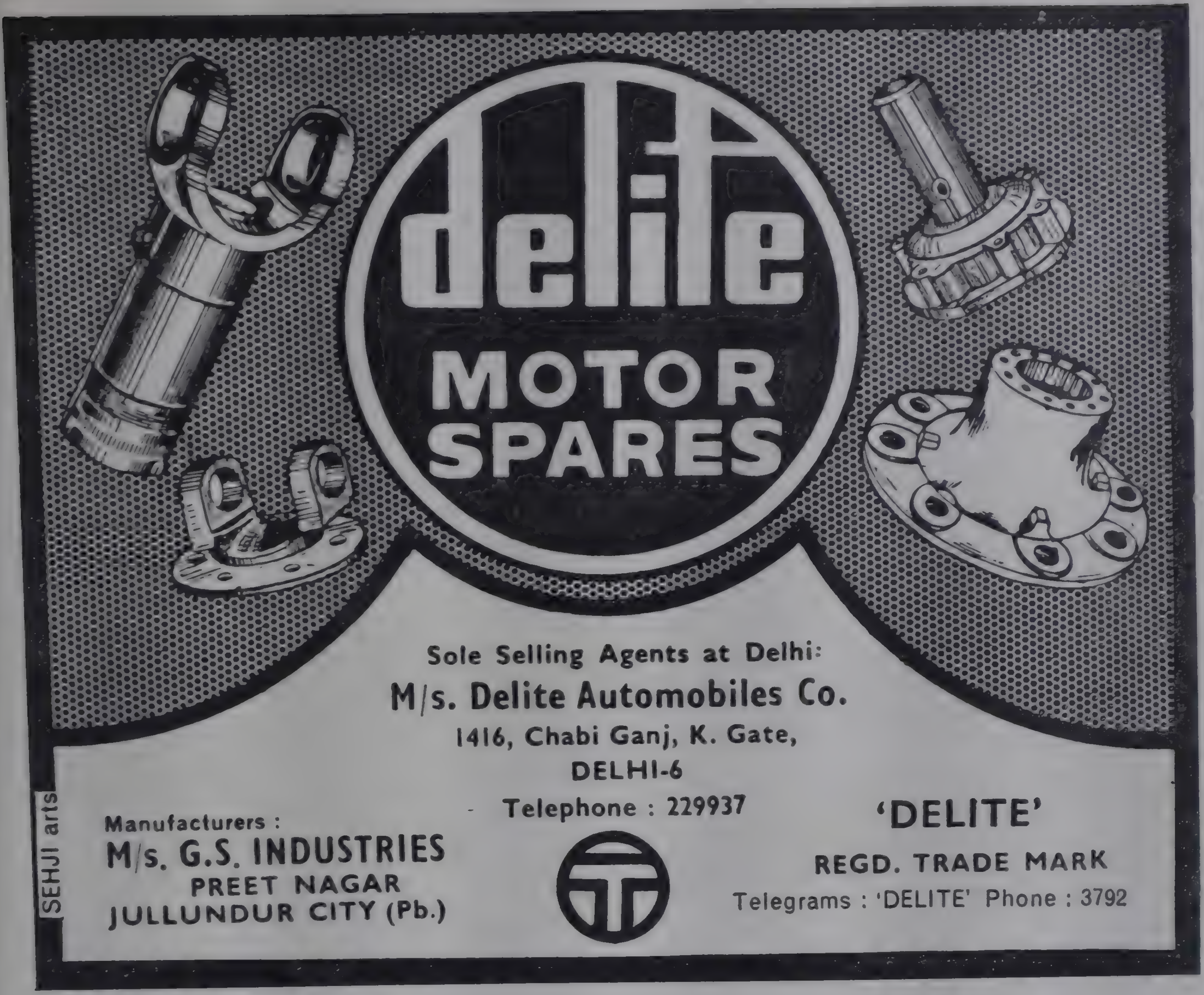

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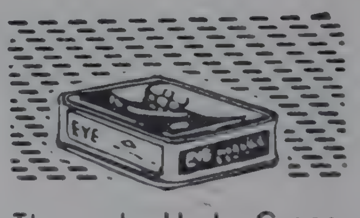

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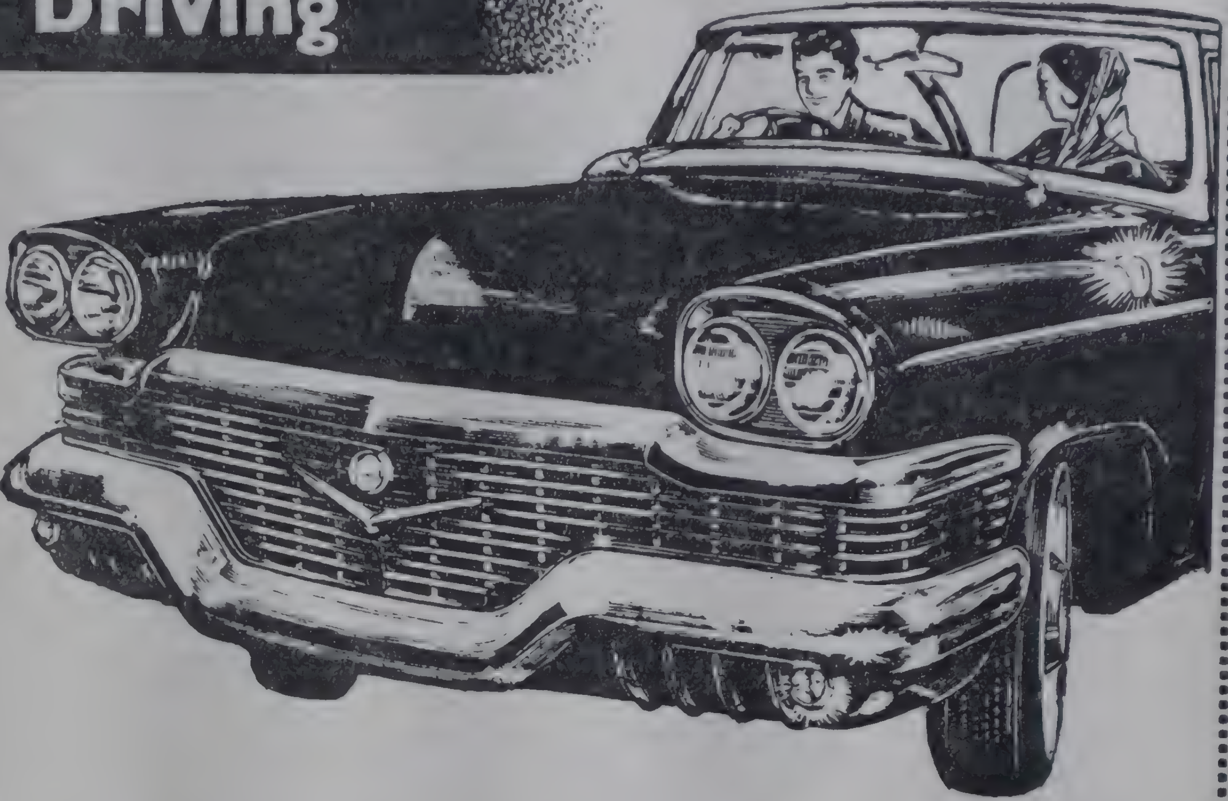

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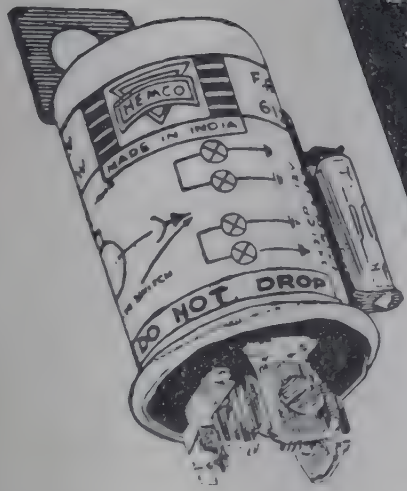

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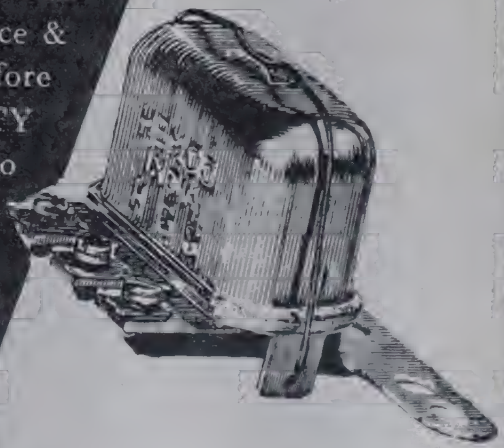

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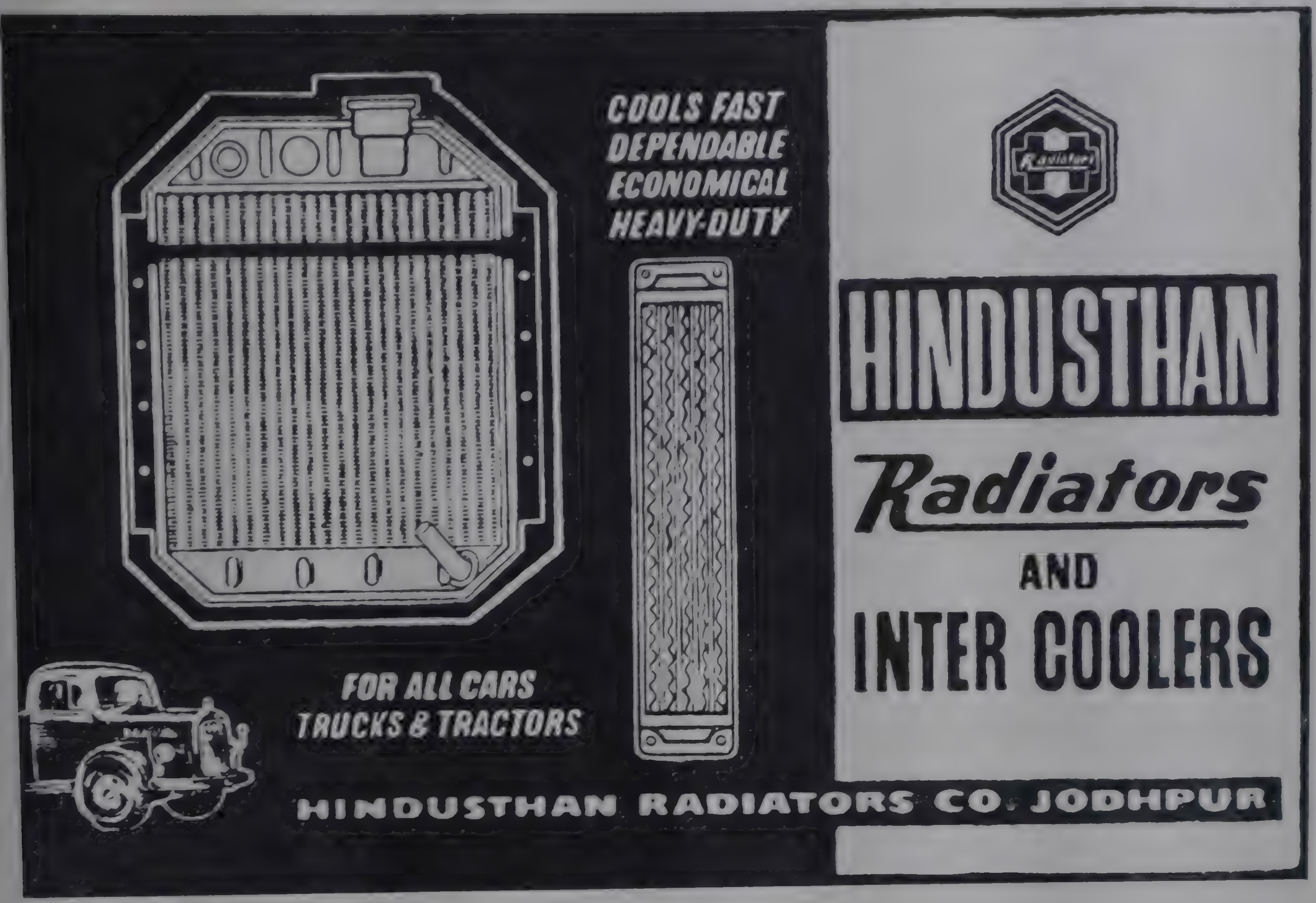
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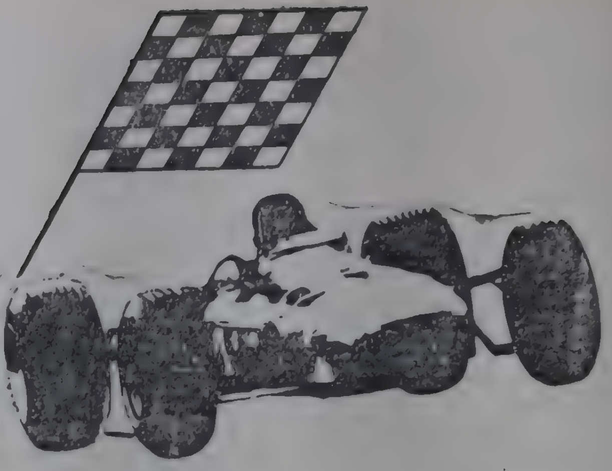

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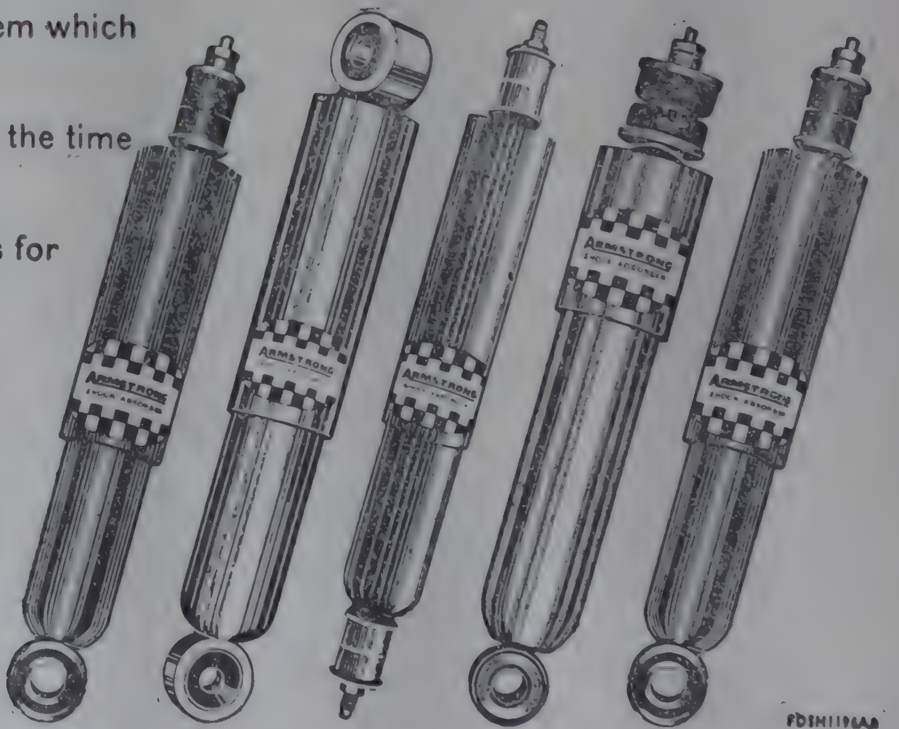

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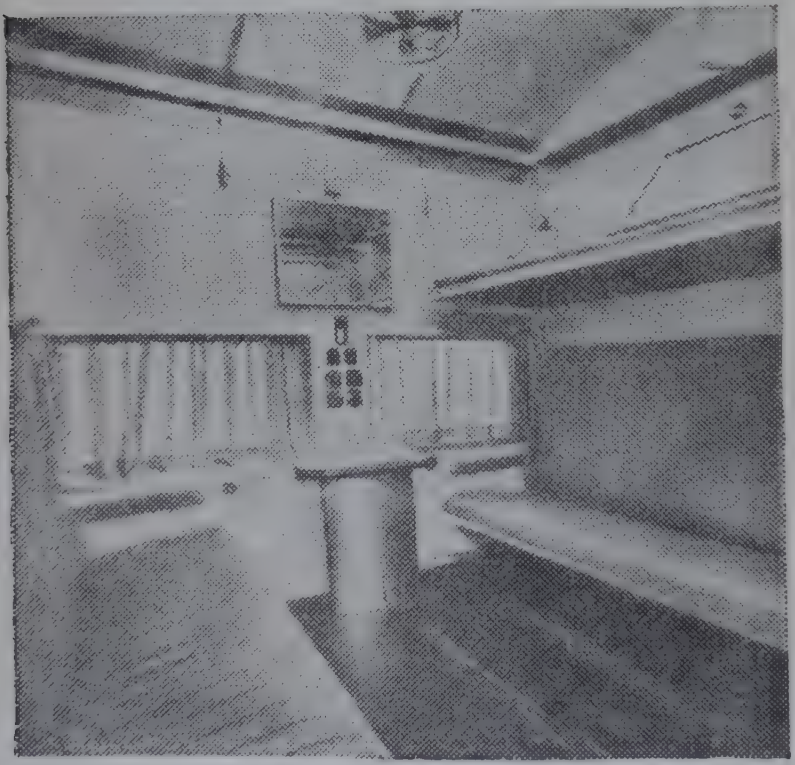

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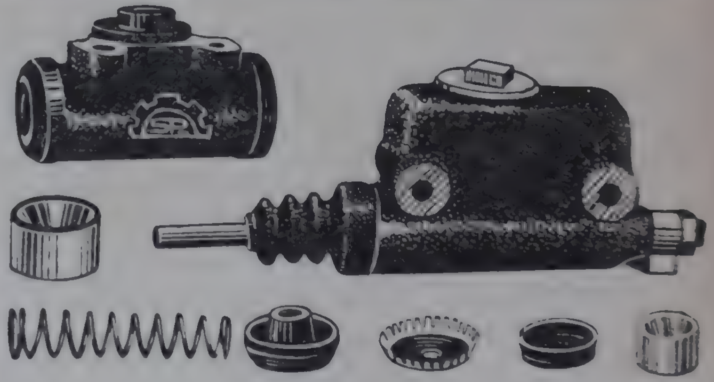

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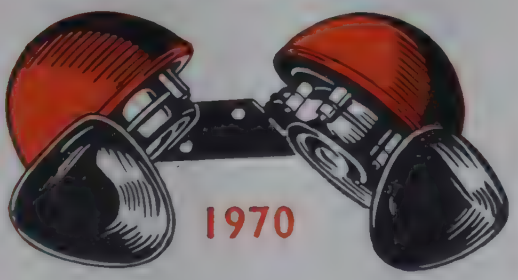

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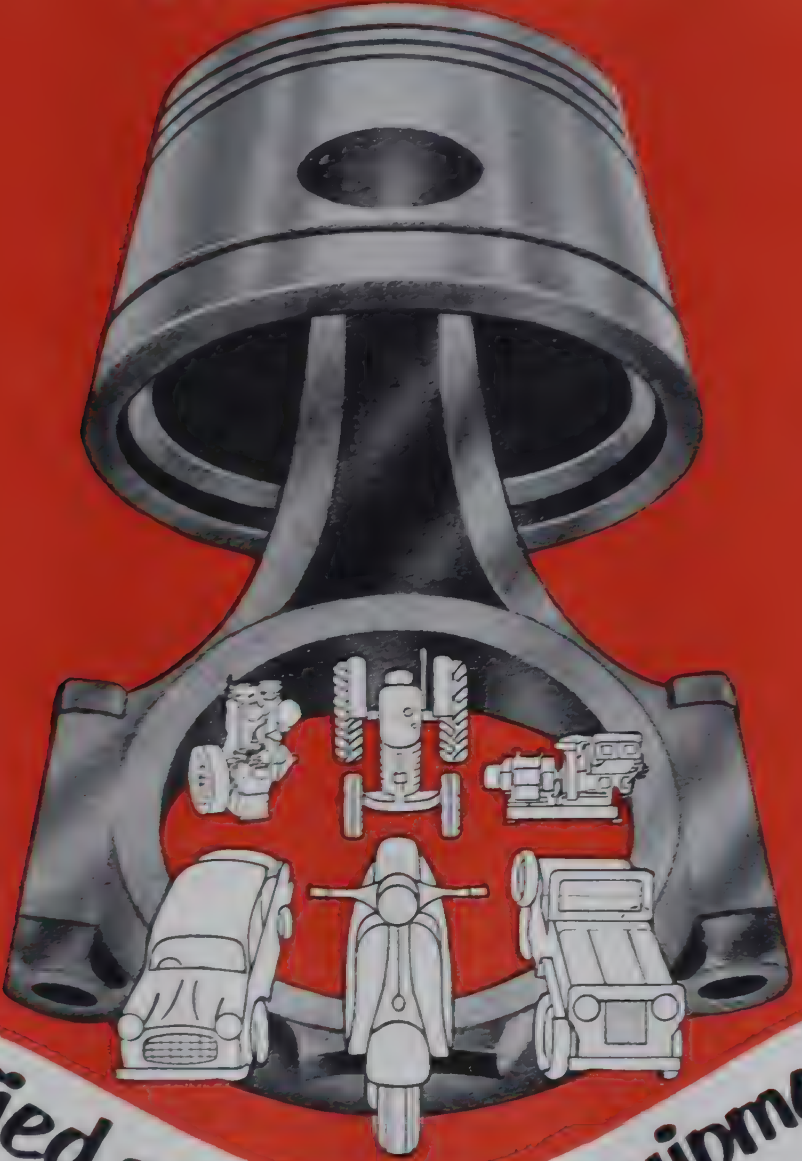

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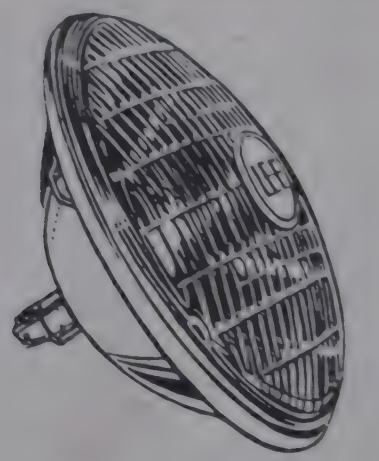

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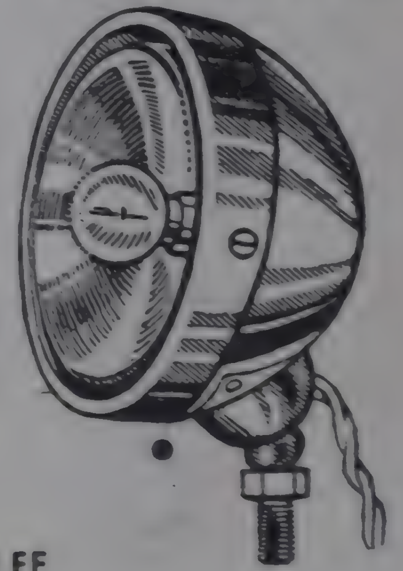

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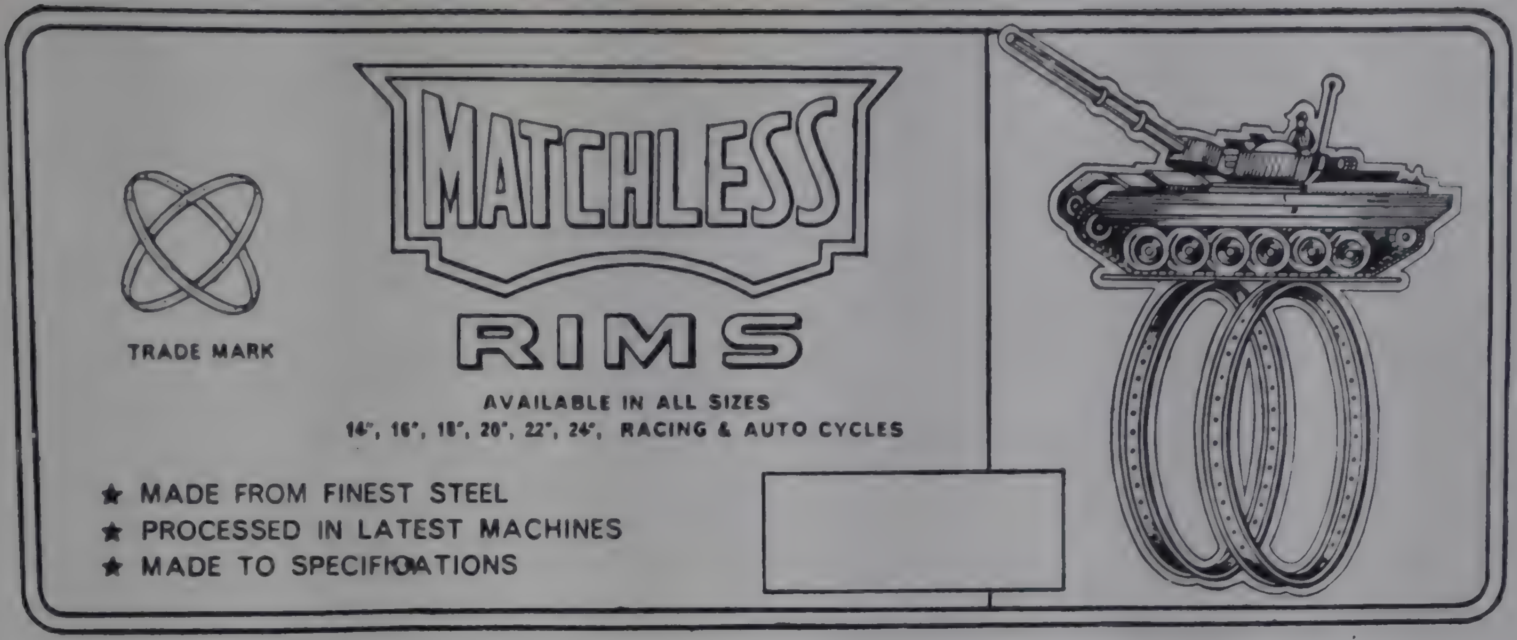

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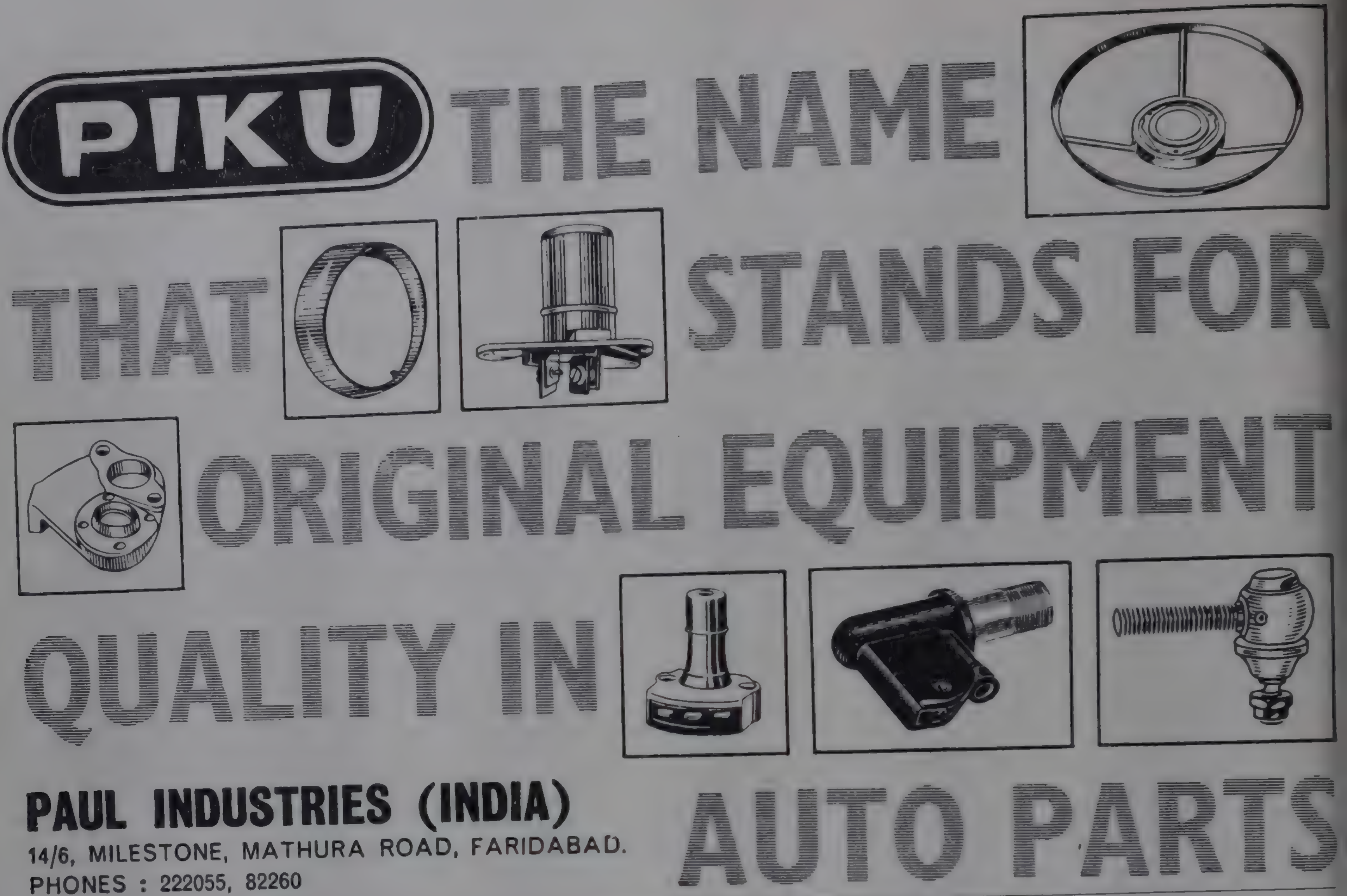

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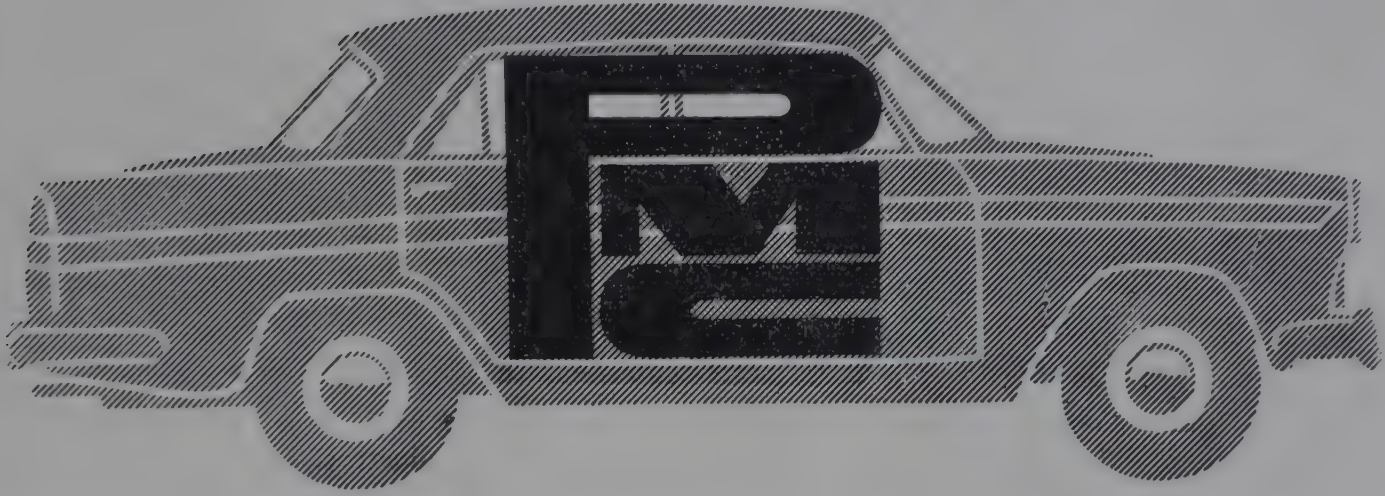

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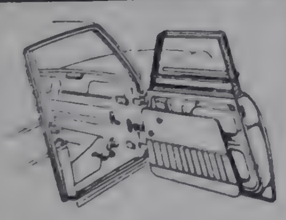
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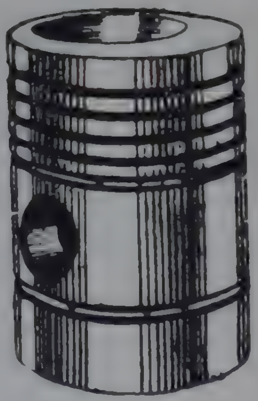

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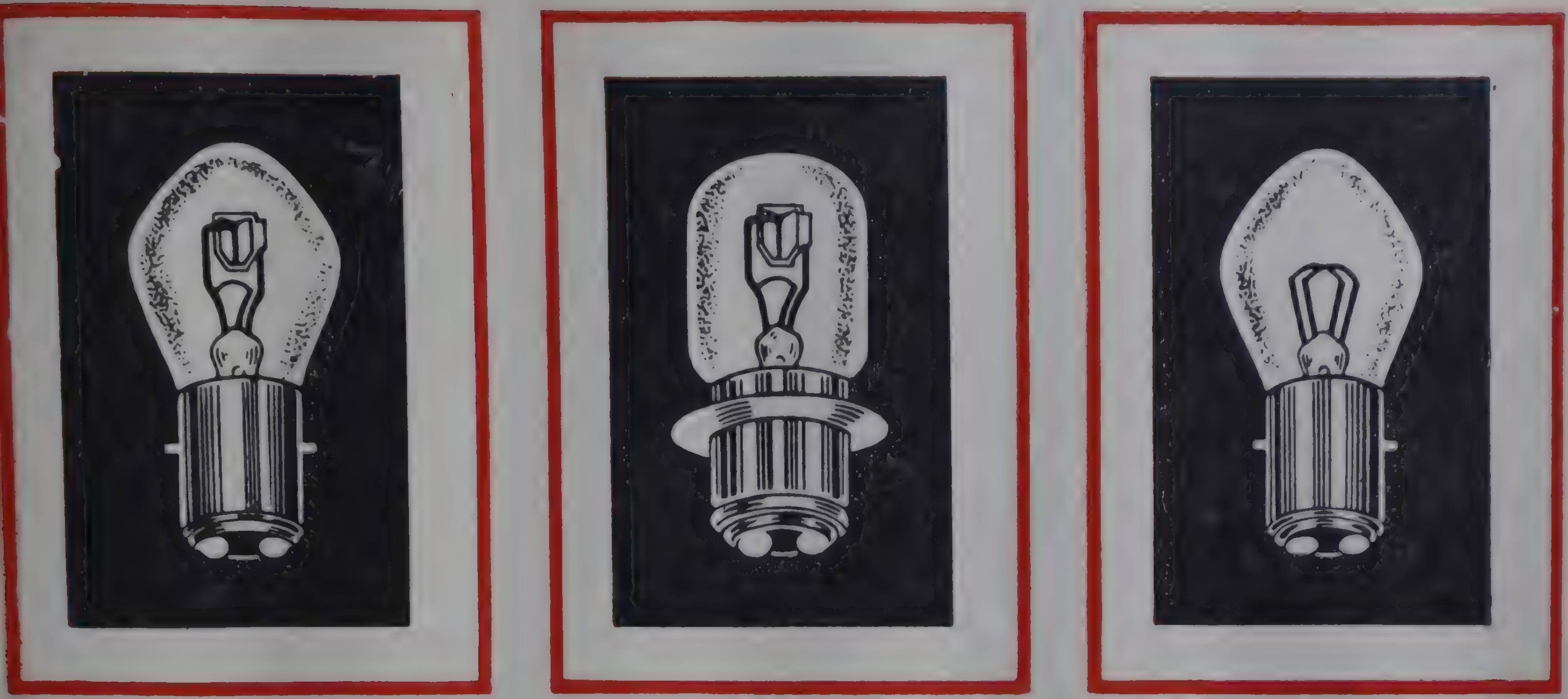

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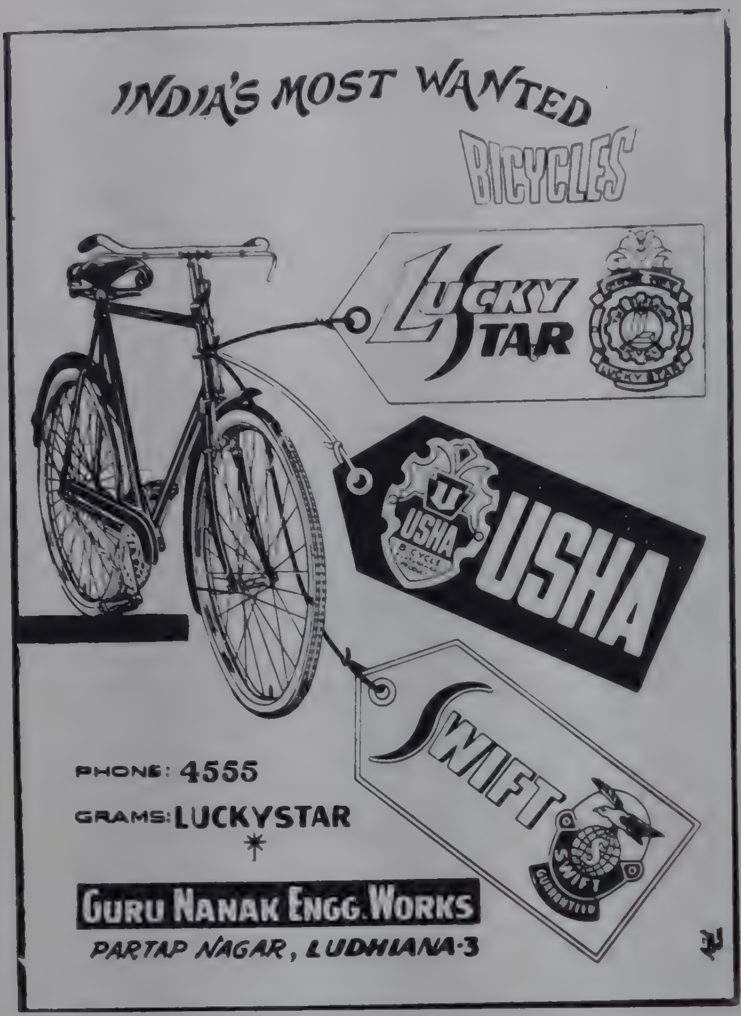

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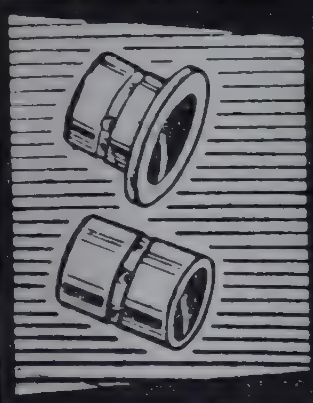

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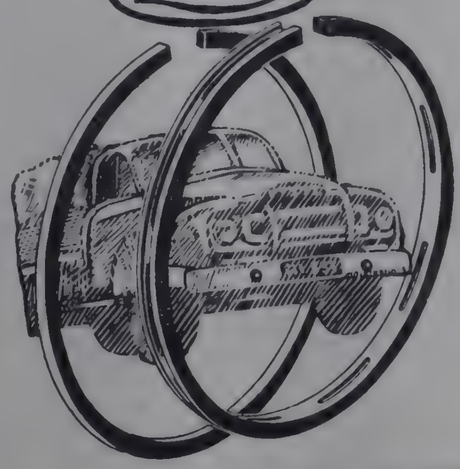

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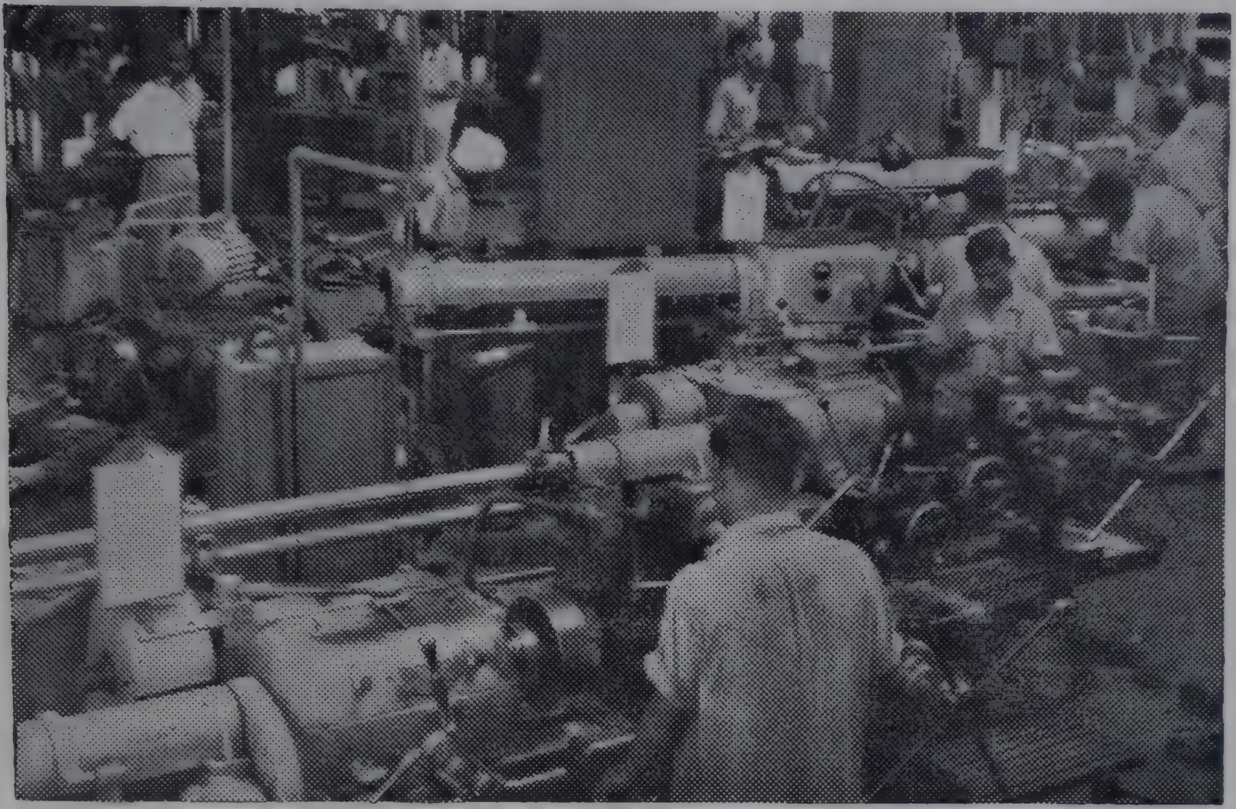

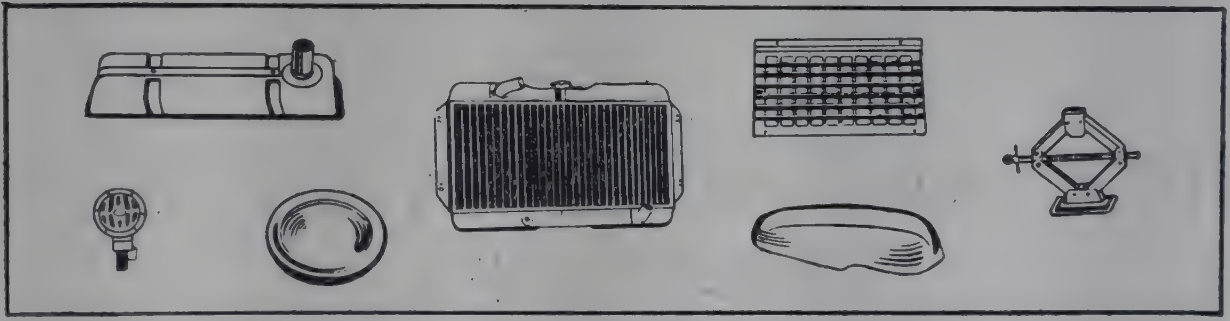

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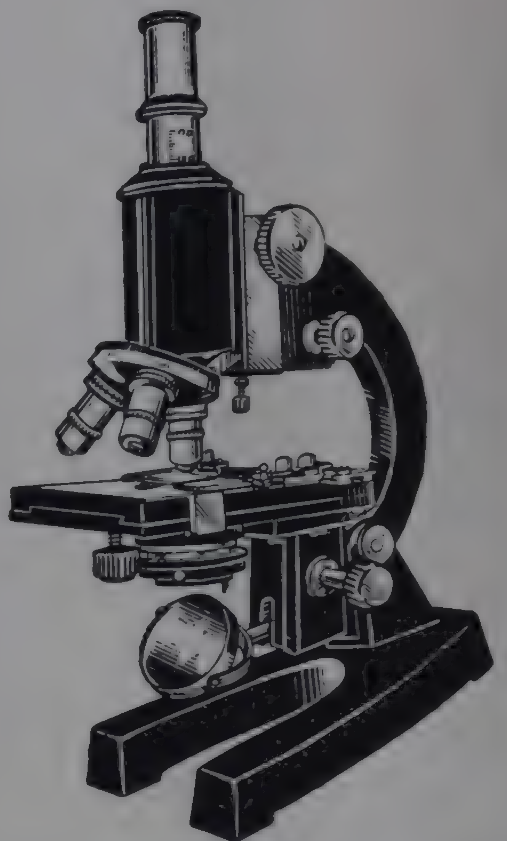

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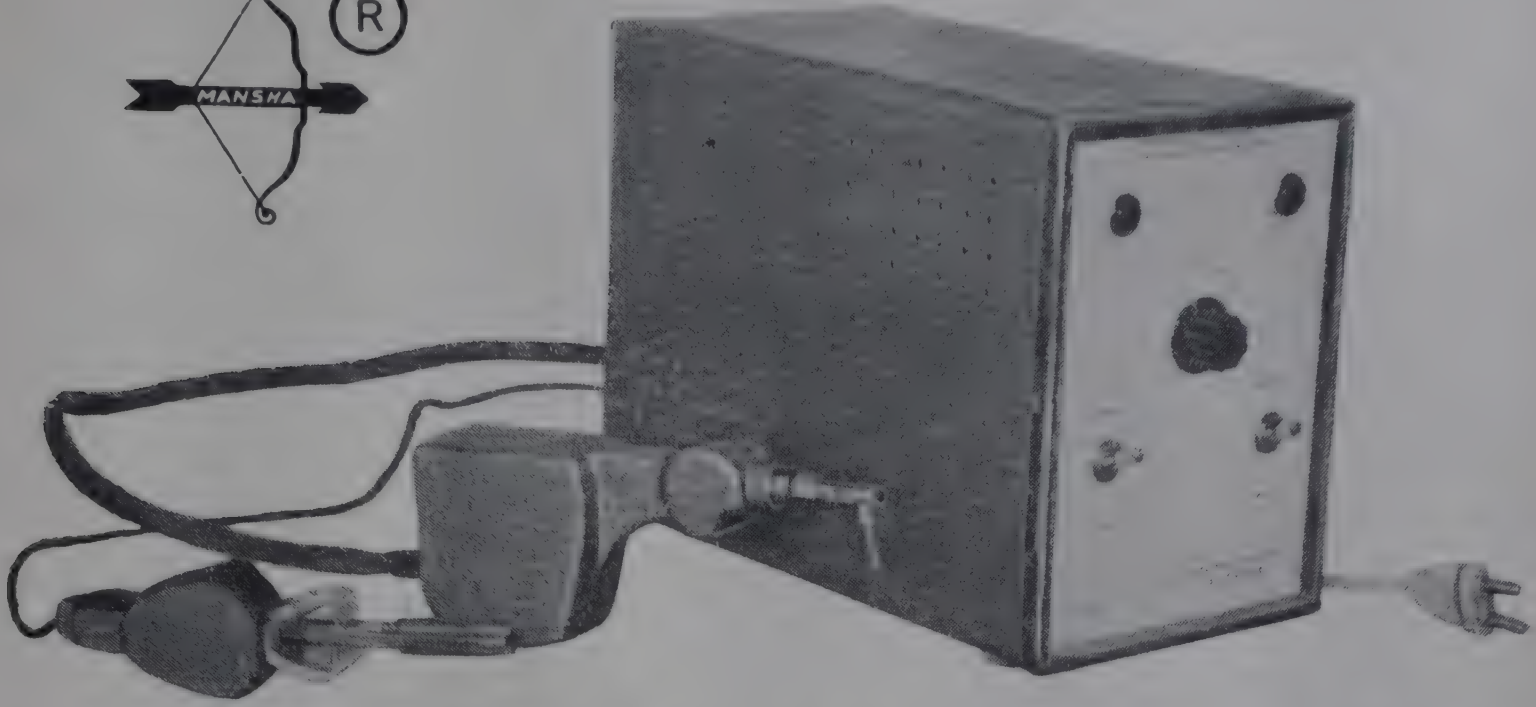

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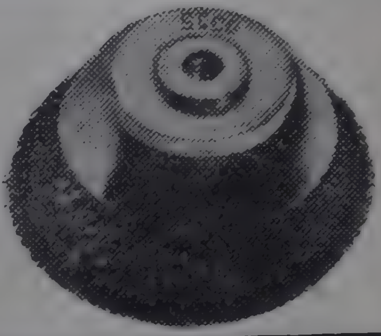

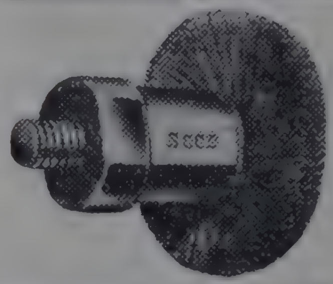

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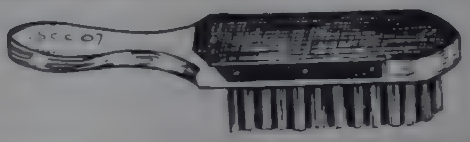

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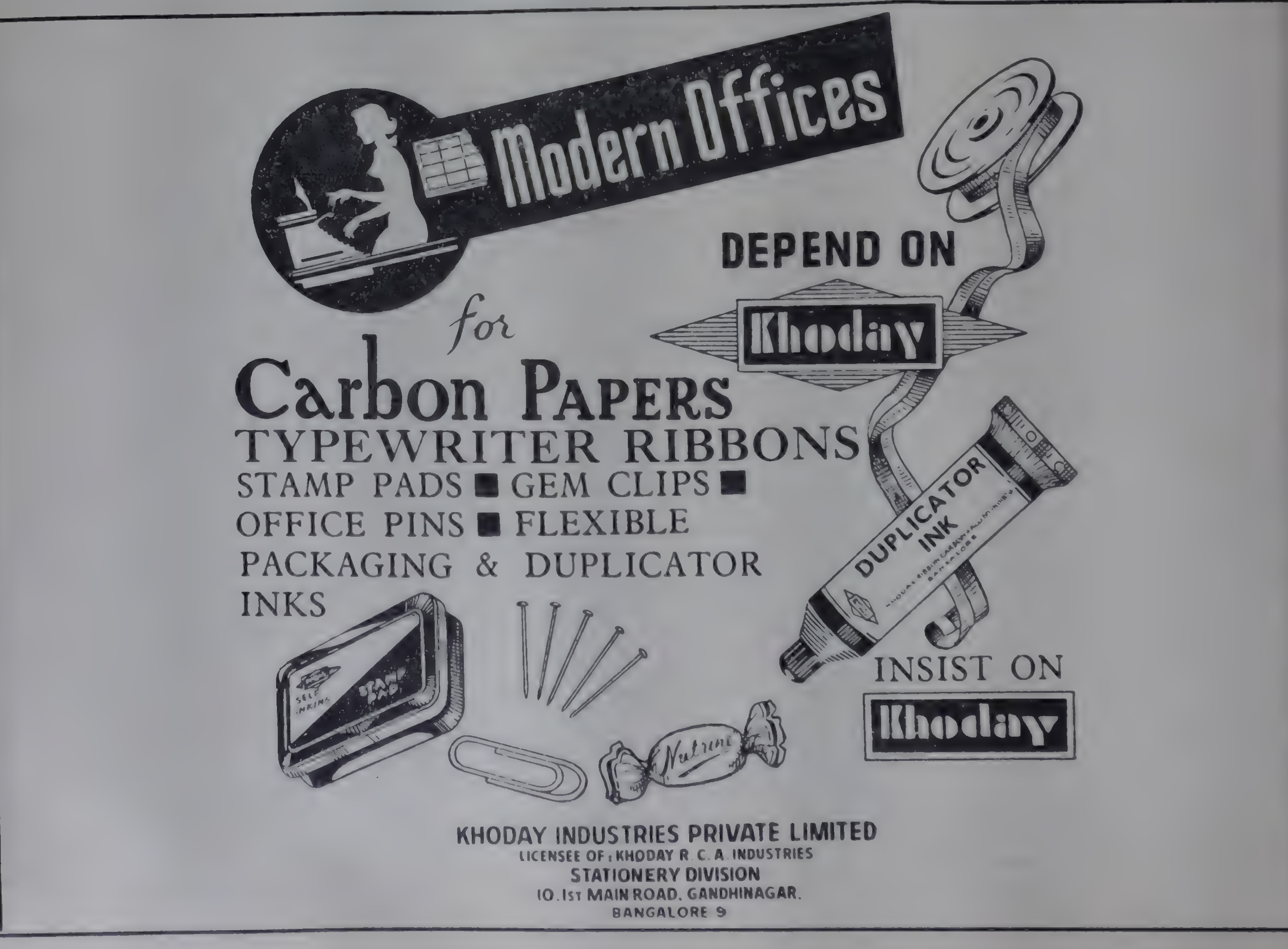

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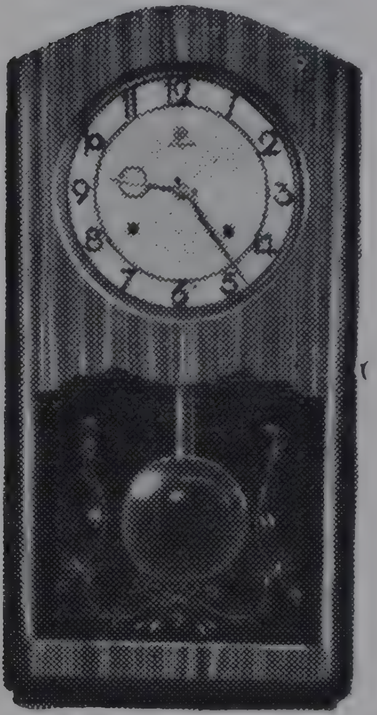

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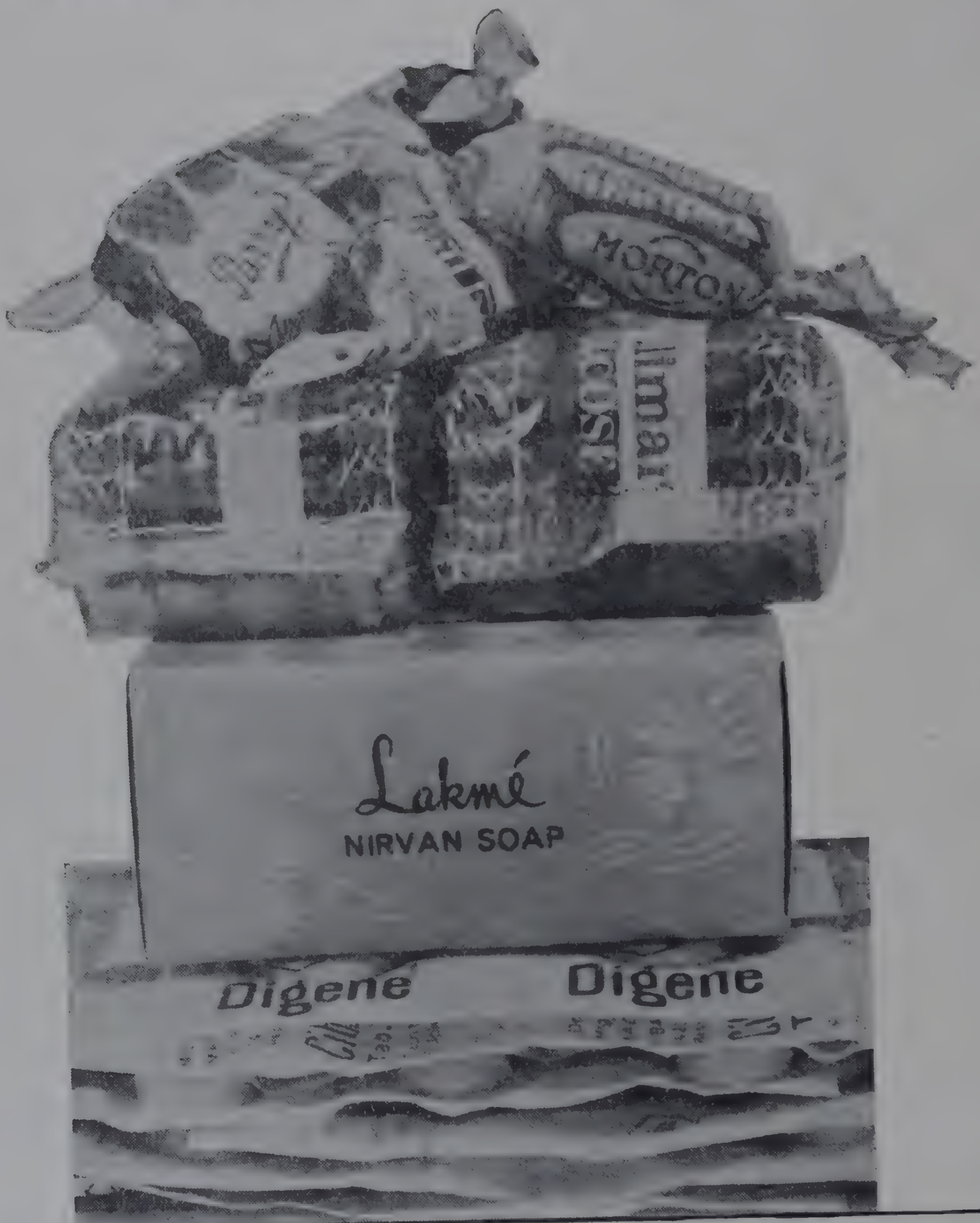

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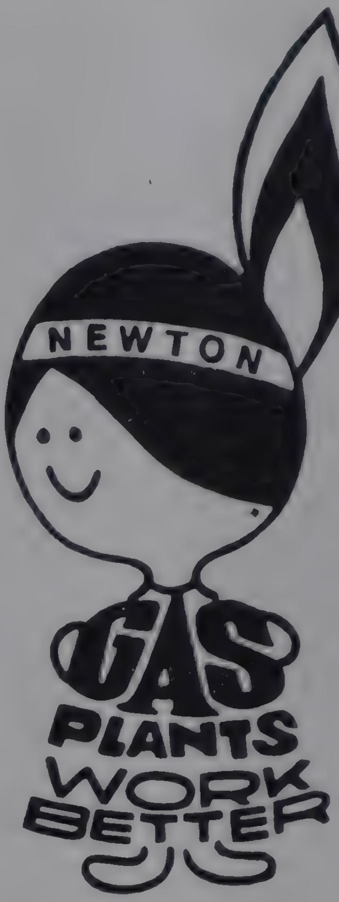

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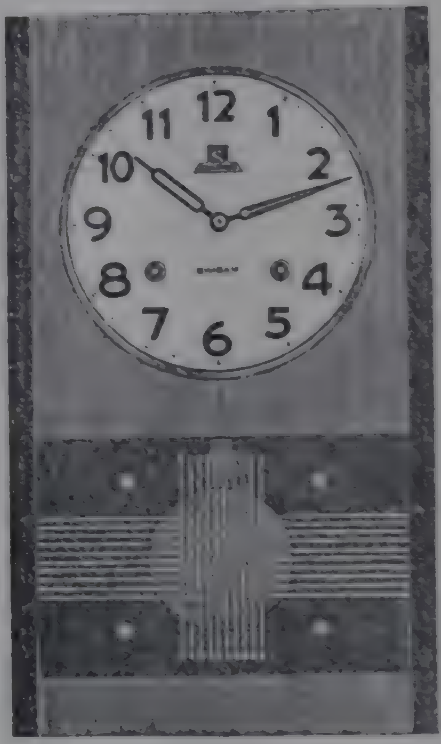

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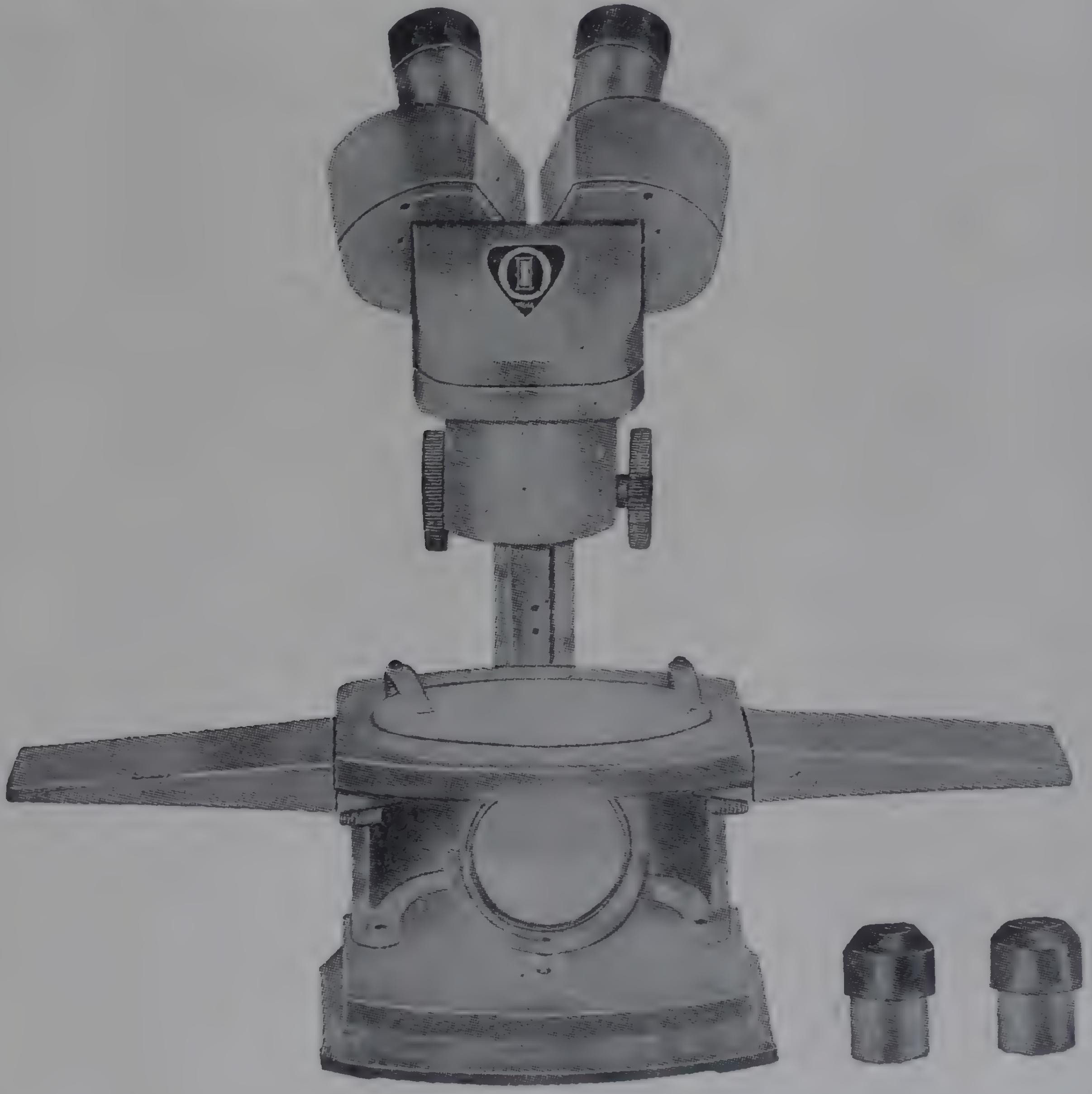

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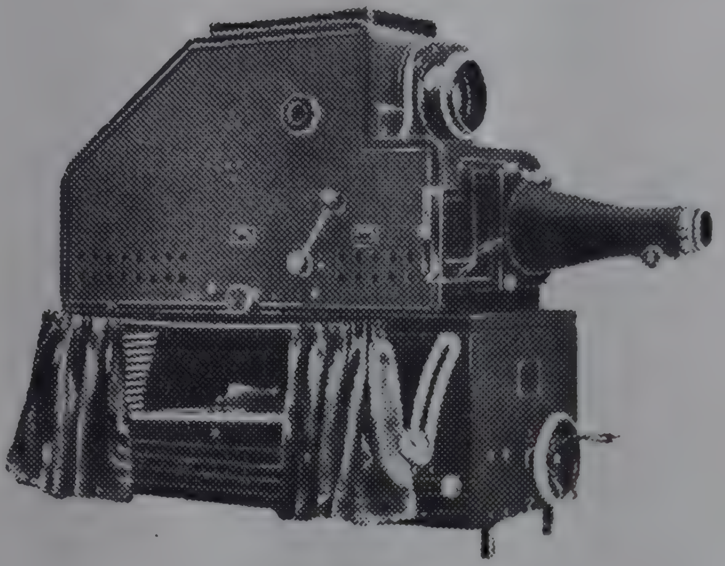

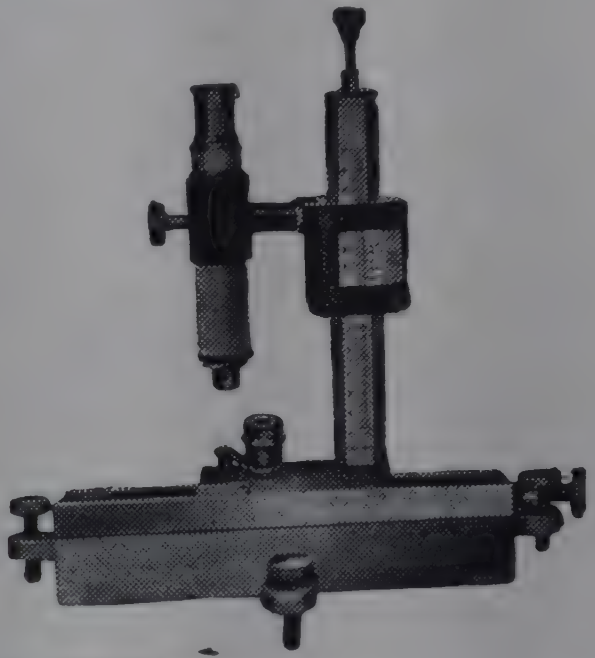

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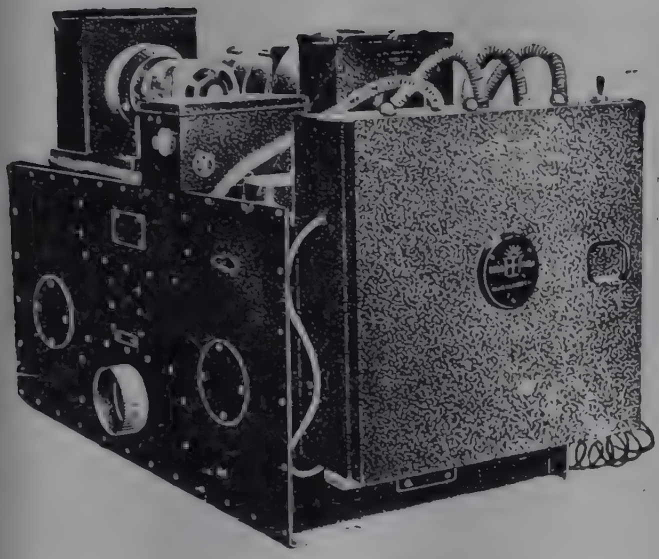

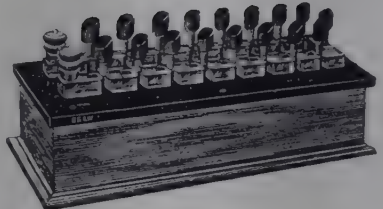

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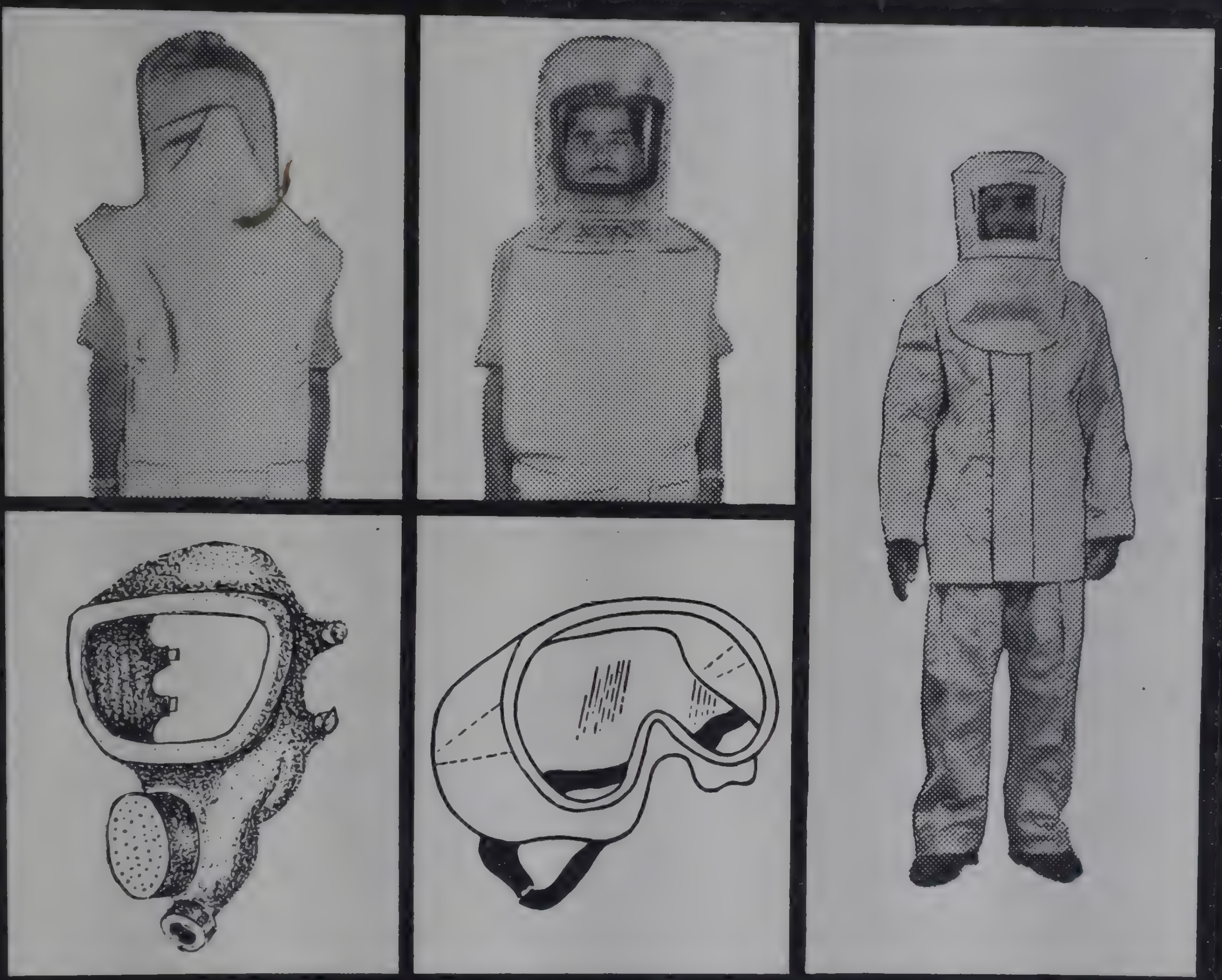

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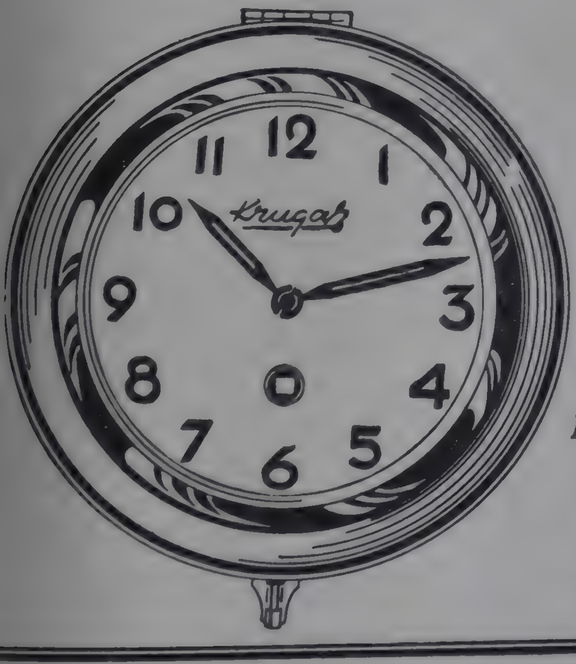

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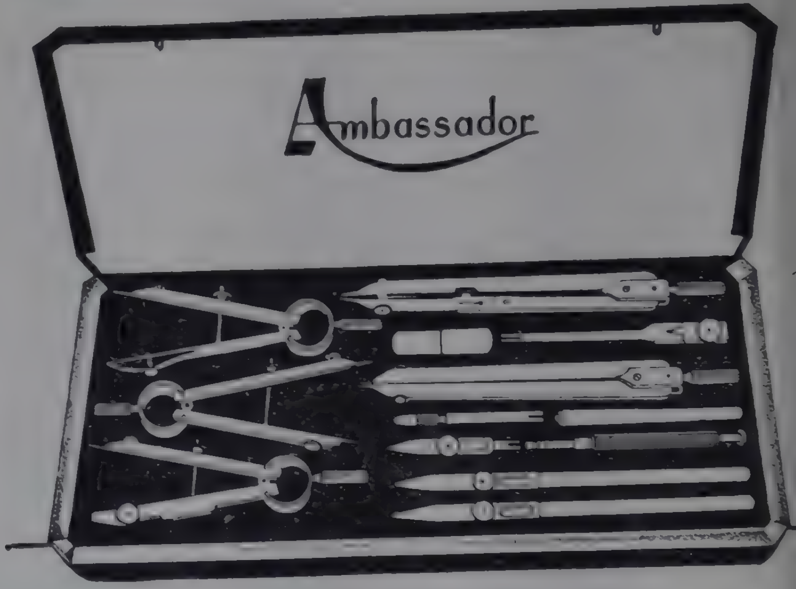

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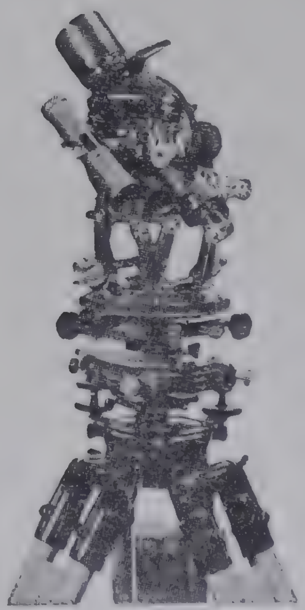

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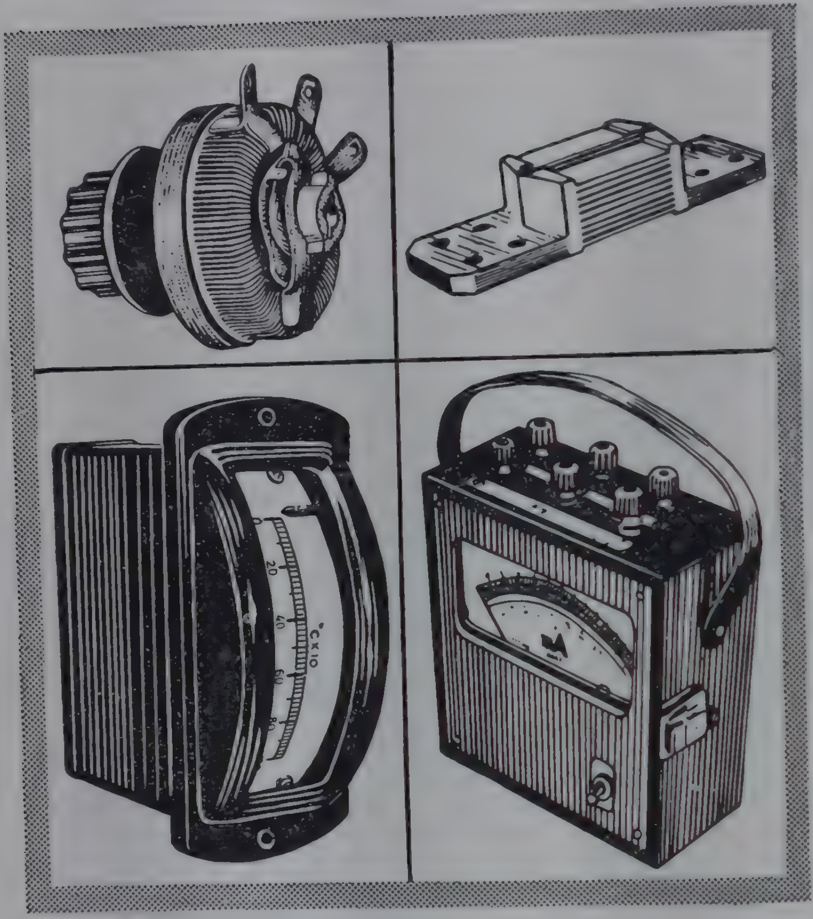

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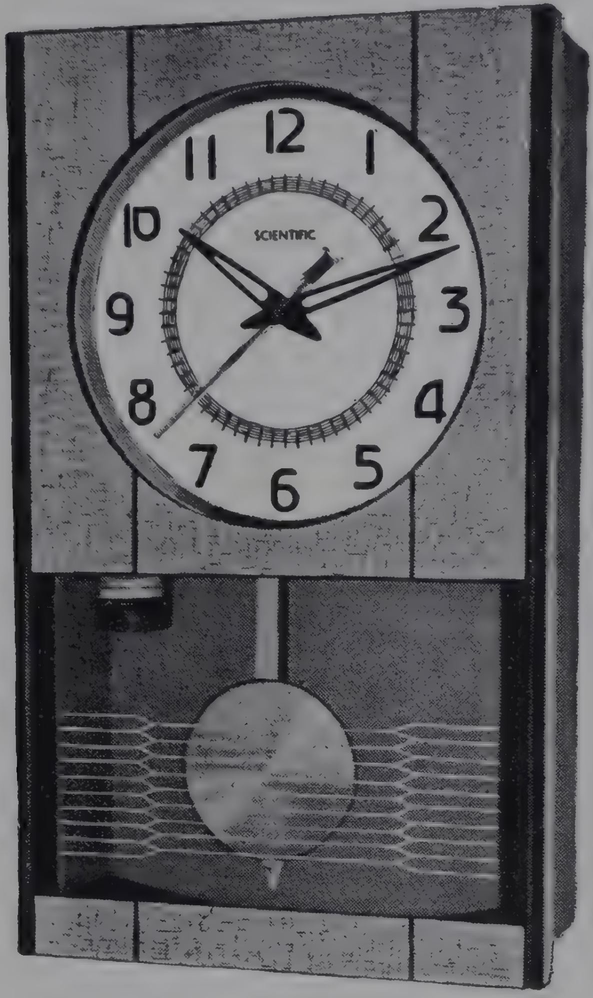

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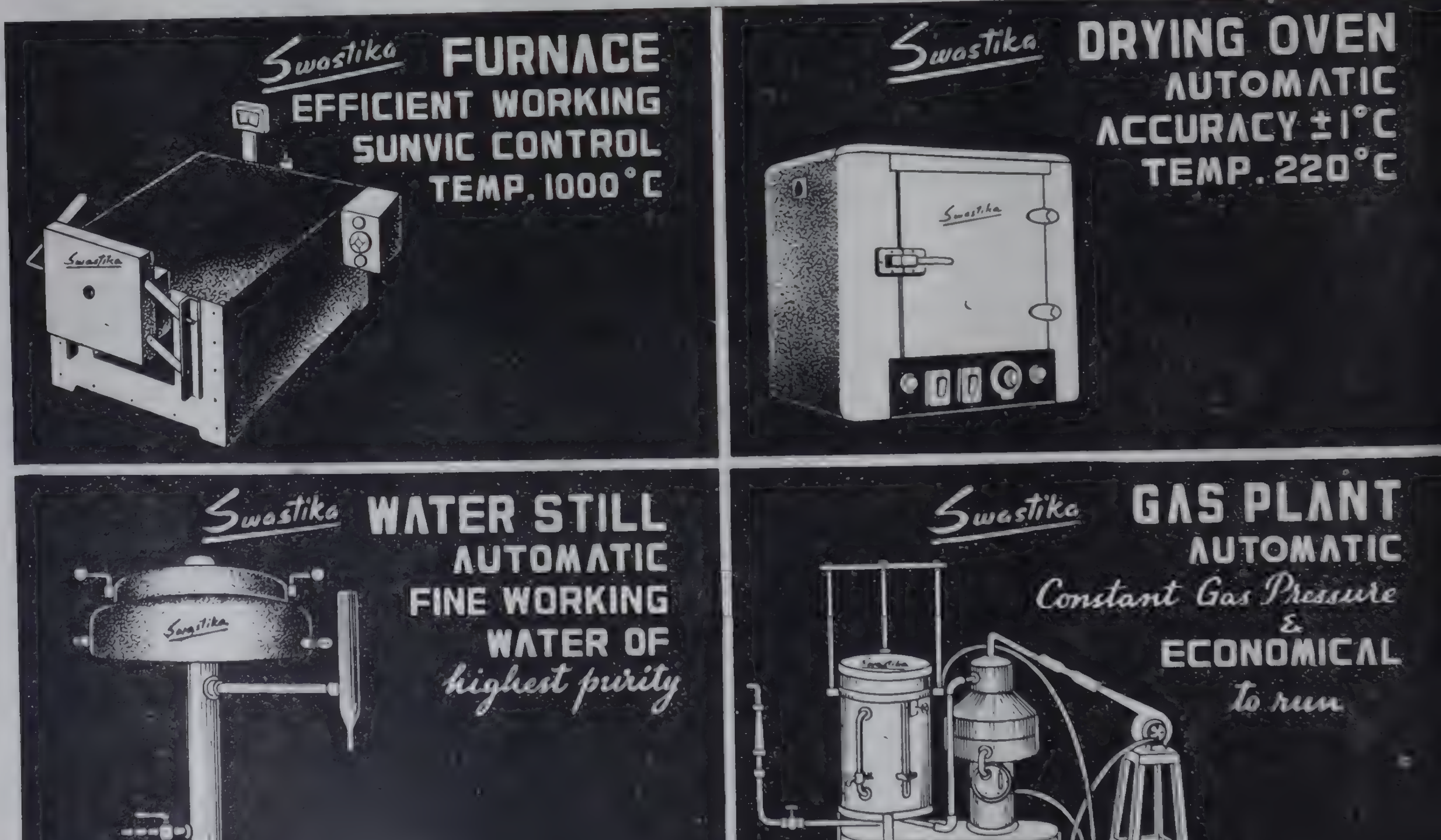

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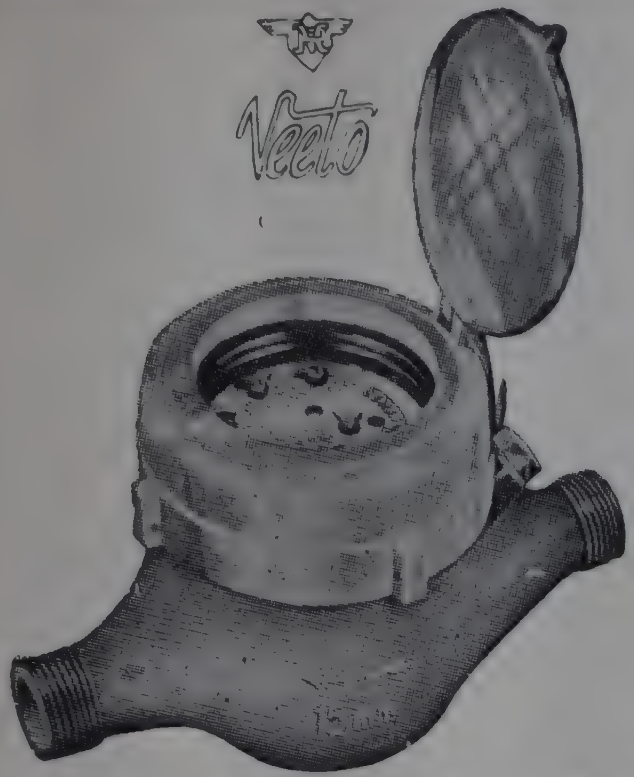

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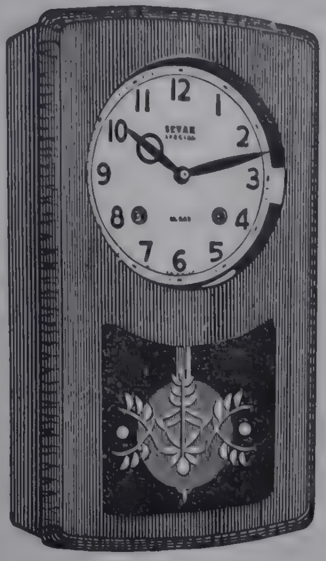

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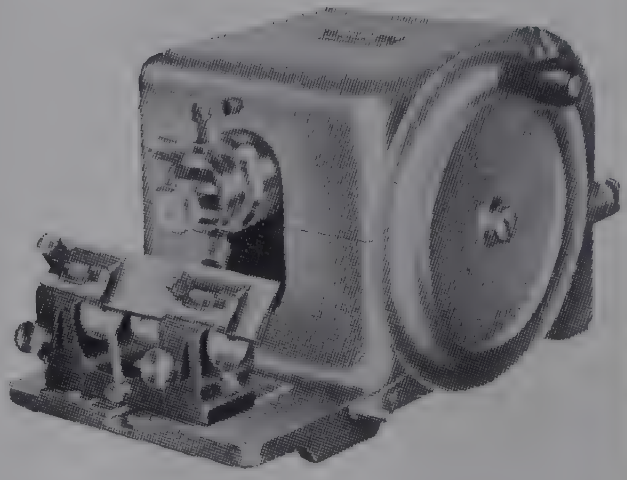

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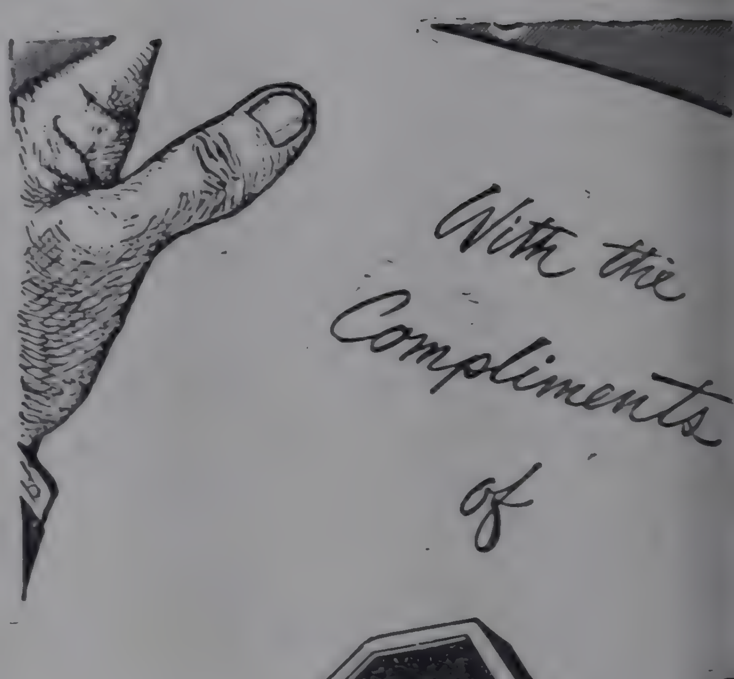
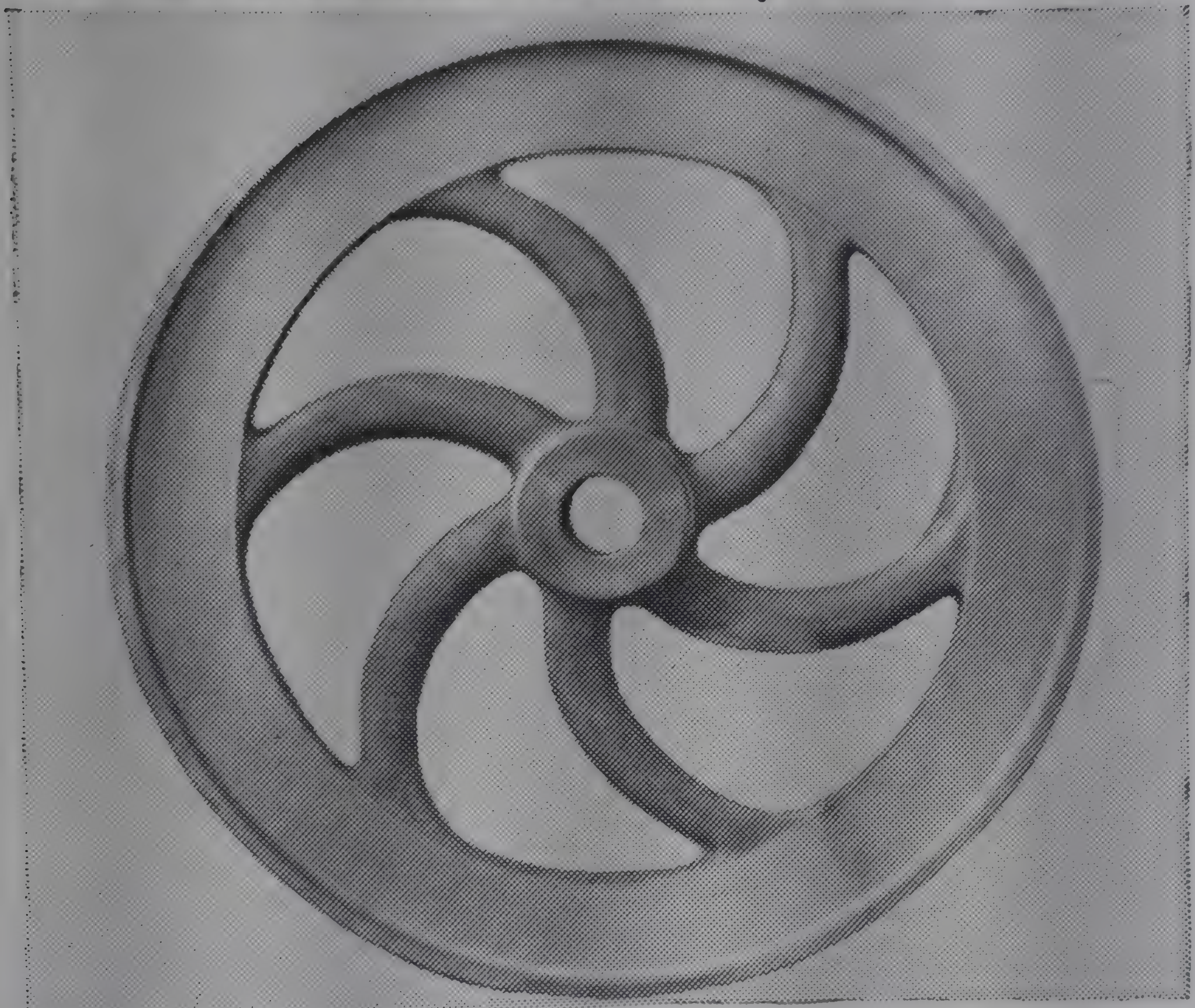


# We Gave an Industry its Wheels



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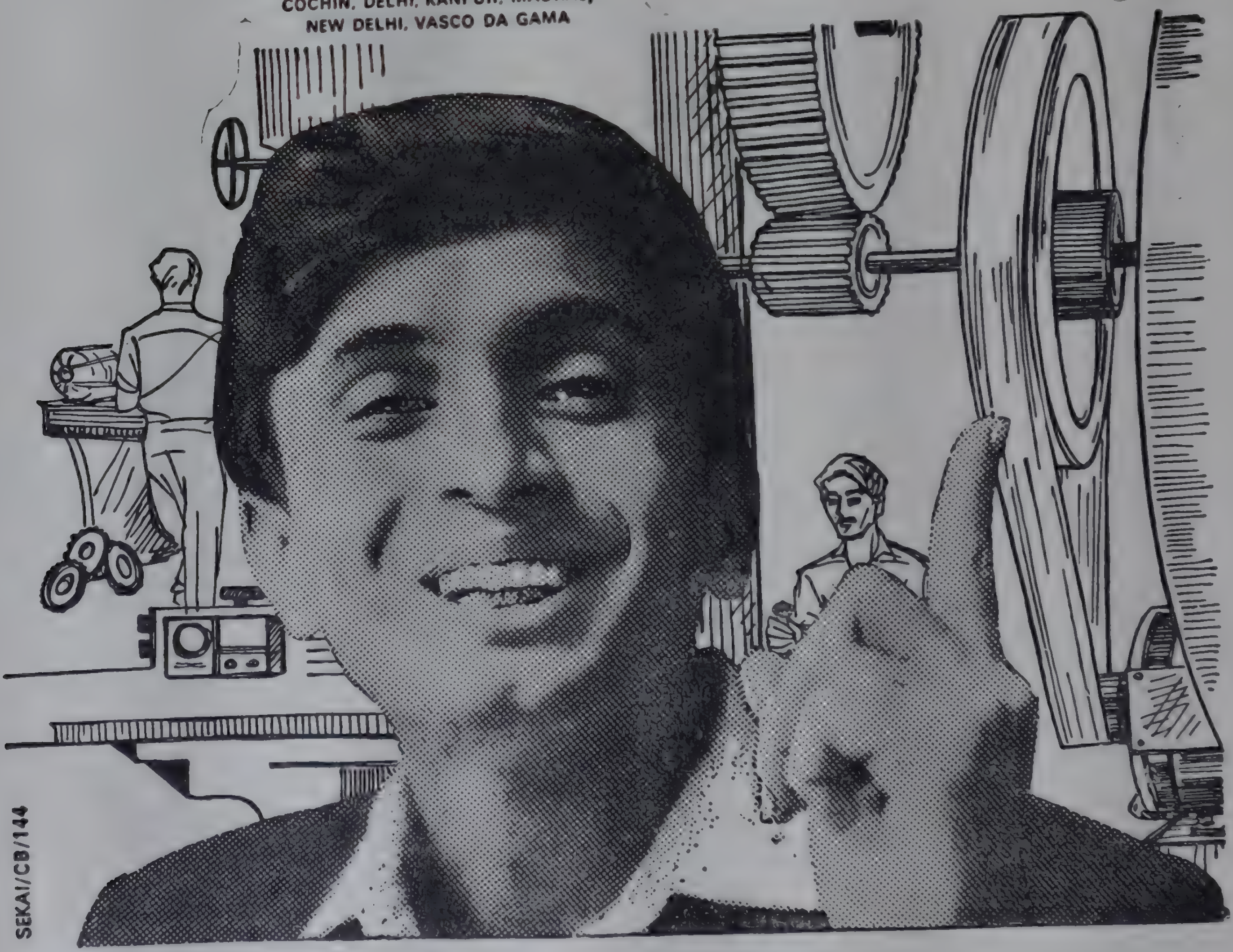

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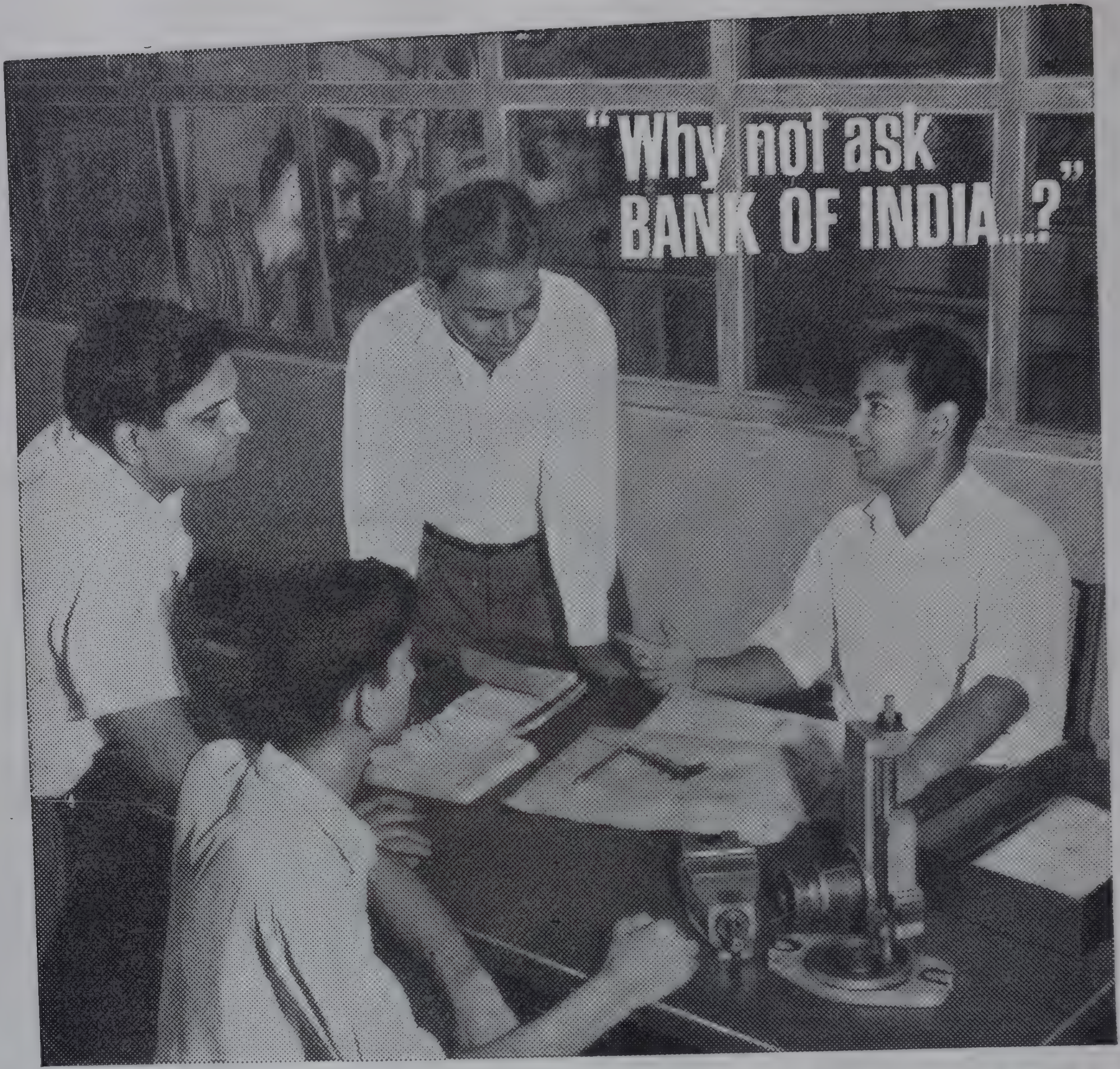

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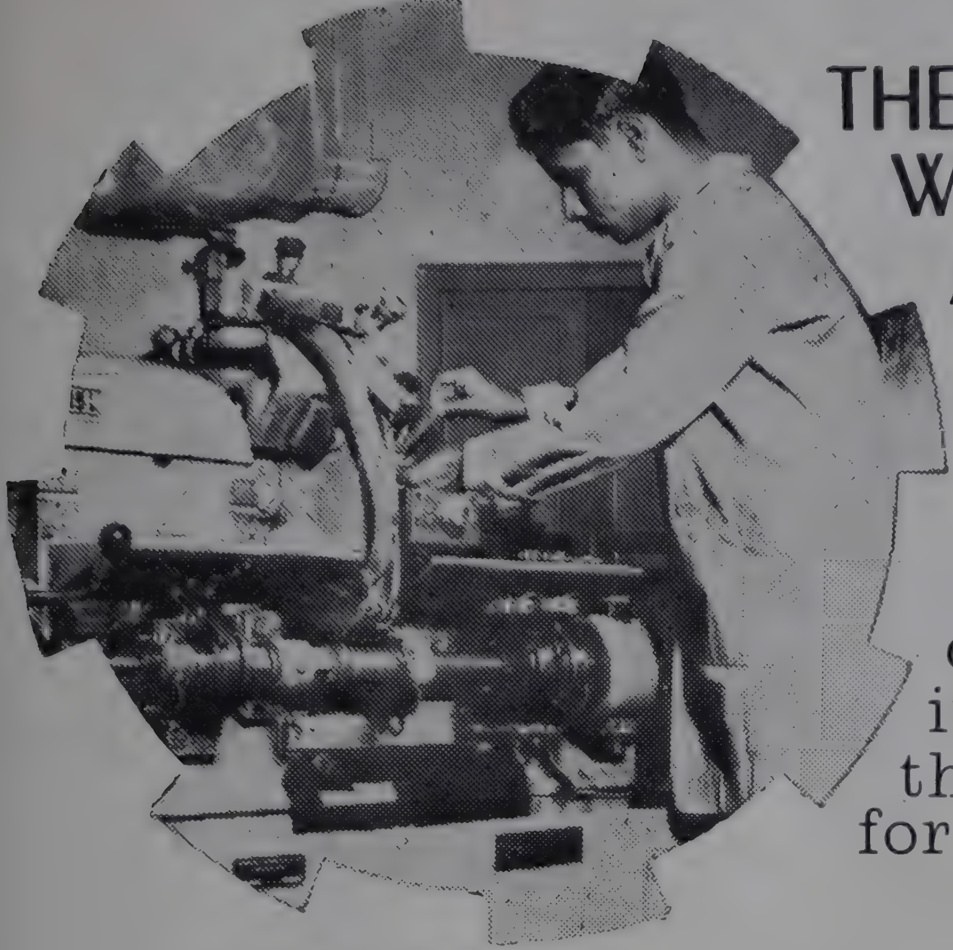

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is a decisive
element
in turning
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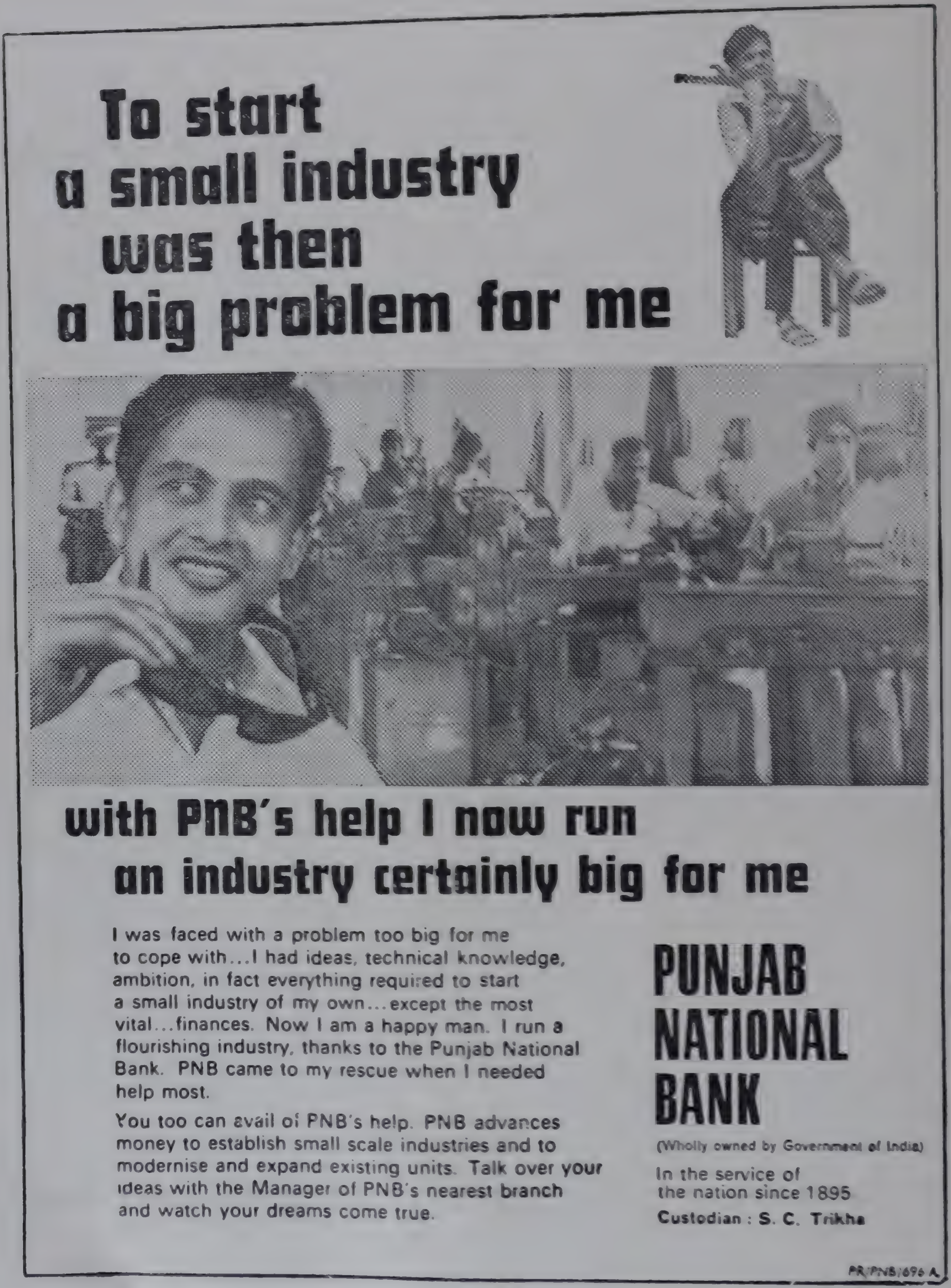
To start
a small industry
was then
a big problem for me
with PNB's help I now run
an industry certainly big for me

I was faced with a problem too big for me to cope with...I had ideas, technical knowledge, ambition, in fact everything required to start a small industry of my own...except the most vital...finances. Now I am a happy man. I run a flourishing industry, thanks to the Punjab National Bank. PNB came to my rescue when I needed help most.

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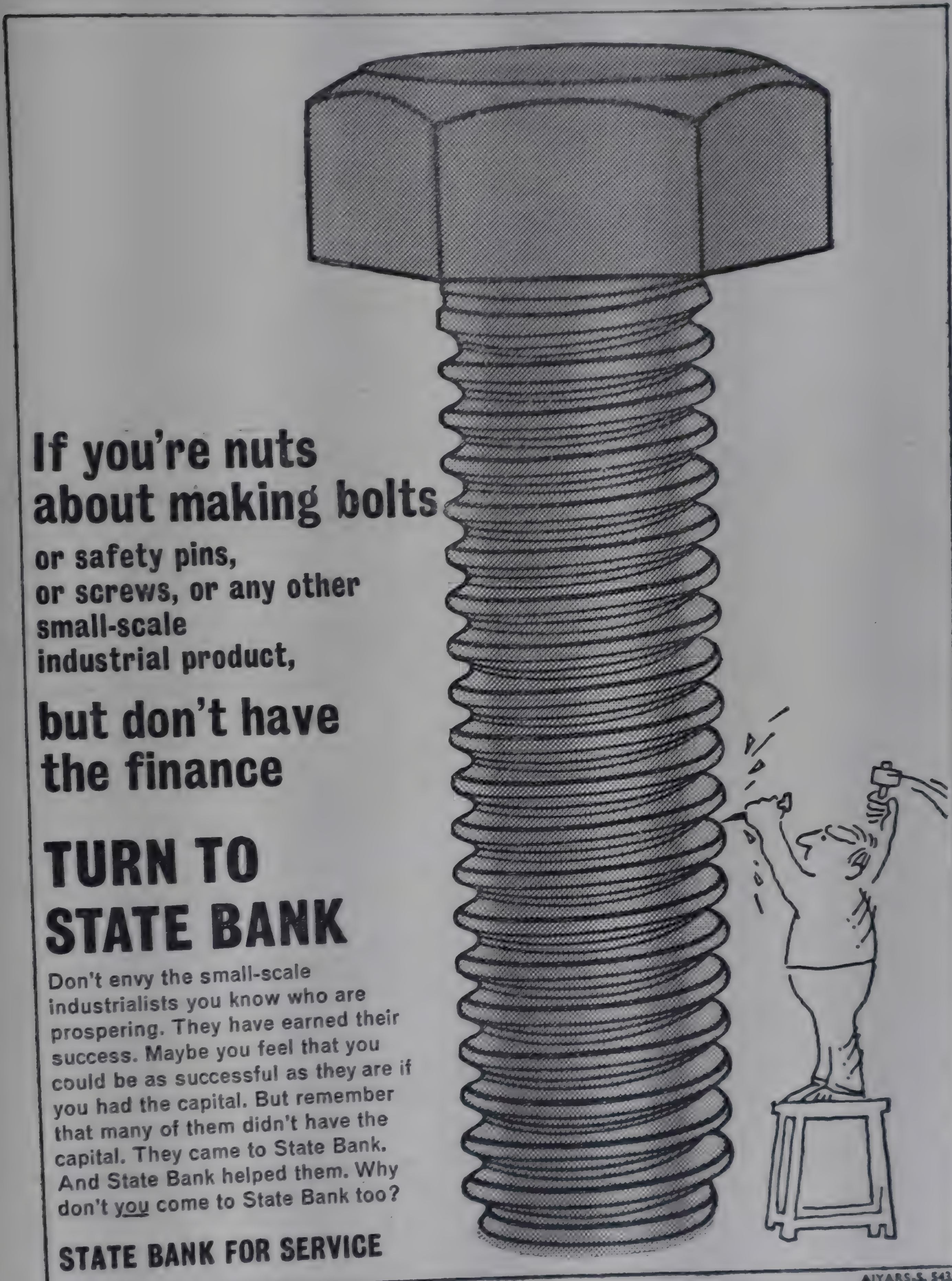
**Custodian : S. C. Trikha**

PR/PNB/696 A



# If you're nuts about making bolts

**or safety pins,
or screws, or any other
small-scale
industrial product,**

## but don't have the finance

# TURN TO STATE BANK

Don't envy the small-scale industrialists you know who are prospering. They have earned their success. Maybe you feel that you could be as successful as they are if you had the capital. But remember that many of them didn't have the capital. They came to State Bank. And State Bank helped them. Why don't you come to State Bank too?

**STATE BANK FOR SERVICE**

AIYARS-S. 543A

WE OFFER ATTRACTIVE RATES OF INTEREST
ON ALL TYPES OF DEPOSITS
BANKING BUSINESS
OF EVERY DESCRIPTION TRANSACTED
AT YOUR SERVICE
FOR SPECIAL ASSISTANCE
TO AGRICULTURISTS,
SMALL INDUSTRIALISTS
AND
SMALL BUSINESSMEN

**STATE BANK OF BIKANER AND JAIPUR**
(SUBSIDIARY OF THE STATE BANK OF INDIA)

*Head Office:* **JAIPUR**

---

SAVE WHILE YOU EARN
SAVING HABIT IS THE BEST HABIT
ENJOY RETIRED LIFE
BY SAVING REGULARLY WITH

**THE STATE BANK OF HYDERABAD**

*For All Your Banking Needs*

**STATE BANK OF MYSORE**

**IS AT YOUR SERVICE**

**ANY ONE OF ITS 145 BRANCHES WILL**
**BE HAPPY TO WELCOME YOU**

*Head Office :*
**AVENUE ROAD, BANGALORE-9**

*Phone* : **73061**

---

**STATE BANK OF PATIALA**

(Subsidiary of the State Bank of India)
H.O. THE MALL, PATIALA

**EXTENDS**

LIBERAL FACILITIES FOR FINANCING

- ***AGRICULTURE**
- ***EXPORTS**
- ***TRANSPORT OPERATORS**
  (Including Taxi Trucks & Auto Rickshaws)
- ***SMALL SCALE & HEAVY INDUSTRIES**
- ***SMALL BUSINESS**

Also financial assistance for Farm Graduates and Technocrats

**A net-work of 98 branches of the Bank in Punjab, Haryana, Himachal Pradesh and Delhi and Chandigarh provides the above facilities.**

K. SUBRAMANIAN
*General Manager*

# STATE BANK OF SAURASHTRA

STATE BANK OF SAURASHTRA
OFFERS

loans on liberal terms to start or to expand the industry to enterprising industrialists or craftsmen who possess ability—integrity and experience. If you have brillient ideas and ability but no capital of your own, come to us, we will help you.

**STATE BANK OF SAURASHTRA**
**(SUBSIDIARY OF THE STATE BANK OF INDIA)**

*Head Office :*
DARBARGADH
BHAVNAGAR

---

**SBT easy to secure, easy to repay, finance schemes can help you.**

**Earn big profits starting your own small scale industry.**

Special assistance schemes for FARM GRADUATES with worthwhile ideas for farm development.

*Get details from the nearest branch or write to :*
**STATE BANK OF TRAVANCORE**
(Subsidiary of the STATE BANK OF INDIA)
HEAD OFFICE: TRIVANDRUM
*THE PREMIER BANK IN KERALA*

*Bensons-1605*

DO YOU KNOW

**the State Bank now offers loans to entrepreneurs who have sound projects for setting up new industries, possess the requisite know-how and ability to operate successfully but do not have adequate financial resources.**

IF YOU HAVE A WORTHWHILE PROJECT,
DROP IN AND SEE US ANY TIME.

**STATE BANK FOR SERVICE**

MADHYA PRADESH EMPORIUM PRESENTS
WONDER FABRICS
IN
CHANDERI, MAHESHWAR, WARASEONI AND
BURHANPUR SAREES
AND
TUSSAR SILK AND KOSA
ALSO
LIFE LIKE LEATHER TOYS, BELL METAL,
TERRACOTTA AND STONE
CARVINGS OF BASTAR

**M. P. LAGHU UDYOG NIGAM LTD.**

(M.P. Government Undertaking)
SULTANIA ROAD
**BHOPAL**

**STATE BANK OF INDORE**

(Subsidiary of the State Bank of India)

**Incorporated in India Under Special Statute**
**The Liability of the members is limited**

*Head Office:*
**BOMBAY-AGRA ROAD, INDORE**

- **Branches at Bombay and all Important commercial centres in Madhya Pradesh.**
- **Attractive rates of interest on Deposits.**
- **Liberal terms for advances to Agriculturists Co-operative Institutions, Small Scale Industries and Retailers.**
- **Equipment finances to self-employed persons, including Lawyers, Doctors etc.**
- **Liberal terms for advances to Craftsmen and Qualified Engineers.**
- **Agency arrangement with over 2,500 offices of the State Bank of India and its Subsidiaries.**

OFFERS COMPLETE BANKING SERVICE

# Over 1,000 small-scale units got started with Union Bank loans.

## Over Rs. 400 lakhs disbursed in less than ten months.

Enterprising people are going into business or expanding their concerns with Union Bank's help.

If you have ideas and need finance, meet your nearest Union Bank manager for working capital requirements, or initial requirements for financing capital cost. If necessary the technical staff can help you out on problems and provide expert guidance.

Light engineering
plastics
chemical plant
machine shop
fruit canning
auto accessories
ready-made garments
spray painting units
transport concern
ceramic unit
food processing
repair shop
tailoring establishment
lathe operator
block printer
service stations
oil presses
and many more

*Union Bank Helps People*

UB

UNION BANK OF INDIA

# UBI

## AND SMALL-SCALE INDUSTRIES

- ★ Special problems of small-scale industries require special treatment. The UBI gives this.
- ★ Each individual case is processed on its own merit to suit its own requirements.
- ★ Where a unit is capable of supplying its products to larger units,

or

Where an enterprise with requisite knowledge, ability and some capital intends to establish a small unit to produce components for larger units,

*the UBI will endeavour to co-ordinate such proposals and to provide requisite finance.*

Write to General Manager

**United Bank of India Ltd.**

Regd. Office: 4, Clive Ghat Street,
Calcutta-1.

aaa/UBI-E6-68

**WE FINANCE SMALL SCALE INDUSTRIES**

**FINANCE IS PROVIDED IN PARTICULAR FOR SMALL SCALE INDUSTRIES PRODUCING:**

1. Essential Consumer Goods
2. Spares For Major Industries
3. Defence & Export Oriented Industries
4. Industries Which Ensure Increased Agricultural Production

**THE VIJAYA BANK LIMITED**

*Regd. Office:*
**Light House Hill Road**
**Mangalore-3**

*Admn. Office:*
**Race Course Road**
**Bangalore-1**

*For Further Particulars*
**Please Contact Any One of Our 115 Branches**

*Our Branch At Delhi:*
G-44, CONNAUGHT CIRCUS
**NEW DELHI-1**
*Phone:* **43865**

M. SUNDER RAM SHETTY
*Chairman*

**DHARMSEE PARPIA**

Estd.: 1898
AMJAD MANZIL
**62, 63 & 64, Sembudoss Street**
**MADRAS-1 (INDIA)**

*Telephone:*
**23848** (**2 lines**)

*Telex:* **282**
*Cables:* **SAMCHASON**

*Exports:*
East Indian Tanned, Kips, Calf, Sheep and Goat Skins
Wet Blue Chrome Goat & Sheep and Pickled Skins

*Imports:*
Vegetable Tanning Materials and Raw Hides and Skins of all World Origins

*Associated with*
**MAYPAR LEATHER MANUFACTURING CO. PRIVATE LTD.**
*Tanners*
**CHROMEPET, MADRAS**

**DHARMSEE PARPIA (OVERSEAS) LTD.**
London, S.E.I.
Deutsch—Indische Lederhandel Gmbh
Hausen, Offenbach/Main
WEST GERMANY

*In the Service of Industry*

**DELHI FINANCIAL CORPORATION**

**ESTABLISHED BY THE GOVERNMENT**

FOR EXTENDING FINANCIAL ASSISTANCE TO INDUSTRIES IN
DELHI AND CHANDIGARH

*Chairman:* S.C. VARMA, I.A.S., CHIEF SECRETARY, DELHI ADMINISTRATION

**Assistance Sanctioned upto 1-8-70 : Rs. 4.85 crores**

MINIMUM LIMIT OF LOAN ADVANCED: Rs. 20,000

MAXIMUM LIMIT Rs. 20 LAKHS in case of public limited companies and industrial co-operatives,

Rs. 10 LAKHS in case of private limited companies, partnerships and proprietary concerns.

**FURTHER CONCESSIONS TO SMALL SCALE INDUSTRIES**

| | |
|---|---|
| 1. STAMP DUTY<br>on mortgage deeds | All mortgage deeds to be executed in favour of Delhi Financial Corporation have completely been exempted from stamp duty. |
| 2. MARGIN ON MORTGAGE<br>of land, building & machinery | 25% |
| 3. RATE OF INTEREST: | |
| (i) on loans upto Rs. 1 LAKH | 8% P.A. |
| (ii) on loans above Rs. 1 LAKH | 9% P.A. (to be reduced to 8% under certain conditions) |
| 4. DURATION OF LOANS: | Usually 11 years |

*Please contact for detailed information*

K.C. PANDEYA, I.A.S.
*Mg. Director:*
*Phone:* **47054**

T.L. KHURANA
*Secretary*
*Phone:* **48607**

**SARASWATI BHAVAN**
E-BLOCK, CONNAUGHT PLACE, NEW DELHI-1

## ORISSA WELCOMES INDUSTRIALISTS
FOR
EXPLOITING HER RICH NATURAL RESOURCES
AND
INDUSTRIAL RAW MATERIALS

## ORISSA ENJOYS AN IDEAL CLIMATE
FOR
INDUSTRIAL DEVELOPMENT AND PEACEFUL LABOUR RELATIONS

### GET EVERYTHING YOU WANT :-

| | |
|---|---|
| **LAND** | Developed sites with Power and Water, Built up Factory sheds i Industrial Estates, land on long term lease on payment Premium and Rent at Concessional rate. |
| **POWER AND WATER** | Power Subsidy of 12½ per cent to all New Small and Medium Sca Industries. |
| **FINANCE** | Loans under State Aid to Industries Act. Loan from Orissa Sta Financial Corporation. Government guarantee against loa raised from Financing Institutions. |
| **TAX RELIEF** | No Sales Tax on Raw Materials for Five years. No octroi on Ra Materials and Machinery for Ten Years. |
| **TECHNICAL KNOW-HOW** | Expert technical advice and Statistical data given free for Planni Industries and Preparing Project Report. |
| **INDUSTRIAL LICENCE AND FOREIGN EXCHANGE** | Are Recommended and Arranged Expeditiously by the Sta Government. |
| **PRICE PREFERENCE** | Small Scale Industries enjoy price preference in respect of Sta Government purchases, |
| **FOR DETAILS** | Write today to<br>*DIRECTOR OF INDUSTRIES*<br>ORISSA<br>CUTTACK. |

# Ample Food Stable Prices

Giving the consumers a steady supply of good quality food at reasonable prices...giving the farmers a fair price for their produce is our duty.

We are committed to achieve this goal by buying from the farmers increasingly large quantities of foodgrains, moving them into safe storage centres and regulating the supplies to ensure that more and more people can get ample and better food at stable prices.

**THE FOOD CORPORATION OF INDIA**
1, Bahadur Shah Zafar Marg, New Delhi-1.

FC11031-A

# GOA, DAMAN AND DIU
# INDUSTRIAL DEVELOPMENT CORPORATION
## PANAJI—GOA

### COME TO GOA AND START AN INDUSTRY...

**We undertake to provide you all the facilities you need to start an industry in Go
Daman or Diu. We have two industrial estates at CORLIM and MARGAO and propose
industrial estates at MAPSA and DAMAN. We have also earmarked select areas for industri
development. You can get suitable factory sheds and developed plots as per details given belo
We assure facilities of roads, water supply and power. We will look after your requirements .
...study your problems ... and take prompt action to render satisfaction in all respects.**

CORLIM INDUSTRIAL ESTATE
(Sheds with subsidised rent)

| Type of shed | Overall Size | Industrial Area (Developed plots) |
|---|---|---|
| A—type | 21.00 m × 10.00 m with office-cum-WC block 6.00 × 4.30 | 4 plots 57.00 m × 42.00 m |
| C—type | 21.00 m × 10.00 m office within the shed | 4 plots 22.00 m × 18.00 m |

MARGAO INDUSTRIAL ESTATE
(St. Jose de Areal)

| Type of Shed | Overall Size | Industrial Are (developed plo |
|---|---|---|
| A—1 type | 36.30 m × 12.60 m | 54.651.00 m |
| A—2 type | 24.45 m × 10.20 m | |
| A—3 type | 15.30 m × 10.20 m | |

*Note* : **All these sheds are self-contained with office and WC block located within the shed its**

**WE SAY IT AGAIN. COME TO GOA AND SHOW YOUR ENTERPRISE.**

*For further particulars please contact:*

**R.P. WAGH, THE CHIEF EXECUTIVE OFFICER, GOA, DAMAN AND DIU INDUSTRIAL
DEVELOPMENT CORPORATION, CHANDRA SADAN, MENEZES BRAGANZA ROAD,
PANAJI—GOA**

STEP
INTO
GUJARAT
Mr.
INDUSTRIALIST!

For your industry, Gujarat would prove most propitious. Gujarat has the right combination of all factors that make a success of your plan or project. Rich in resources—financially, materially. What is more you would find most helpful friends—GIIC and GIDC

**GIDC would help you find 'where' and GIIC would help you find the 'wherewithal'!**

CONTACT:-
THE CHIEF PUBLIC RELATIONS OFFICER
**GUJARAT INDUSTRIAL INVESTMENT CORP. LTD.,**
**GUJARAT INDUSTRIAL DEVELOPMENT CORP.**
NATRAJ BUILDING,
ASHRAM ROAD, AHMEDABAD-9
PHONE- 54968

navnit-2

*With best compliments*

*from*

**GOVIND M. POY RAITURCAR & FILHOS**

**MARGAO-GOA**

(A business house founded in the year 1869)

*With best compliments*

*from*

**GUJARAT NON POWER SABU UTPADAK MAHAMANDAL**

Opp.: Parsi Agiyari, Near Khamasa Gate
AHMEDABAD

NOMINEE of GUJARAT STATE for distribution of RAW MATERIALS to 400 Small Scale Soap Manufacturers of Gujarat

POPATLAL H. SHAH
*President*

D. C. SHAH
*Vice President*

VADILAL M. BHAVSAR
*Secretary*

*GSIC Assists Small Scale Industries in the following :*

(1) Procurement of Scarce raw materials such as Pig iron, Ball Bearings, Iron & Steel Items non-ferrous metals, chemicals etc.
(2) Supply of machinery on Hire Purchase basis.
(3) Marketing Assistance for sale of small scale industries' production.
(4) Import Arrangements against Actual Users' Import Licences.
(5) Assistance in production of stores required for Defence purposes.
(6) Procurement of quality Machine Tools.
(7) Assistance in development of Automobile Ancillary Industries.

**Gujarat Small Industries Corporation Limited**

AMBICA NIVAS, ASHRAM ROAD
**NAVRANGPURA, AHMEDABAD-9**

*Tele. Nos. :* **54737 & 54738**

---

**PLANNING AN INDUSTRY?**

The Gujarat State Financial Corporation (the premier financing Agency assisting small and medium scale industries) will be happy to assist you by providing.

- LOANS : on long and medium term basis
  - Guaranteeing Deferred Payment to suppliers of Machineries in India on liberal terms;
  - Underwriting the shares and subscribing to Debentures.

**GUJARAT STATE FINANCIAL CORPORATION**

"JALDARSHAN BUILDING"
Ashram Road
Post Box No. 262
**AHMEDABAD-9**

*Phone :* **50214**

*what does a fabric mean to you personally?*

**For men ?** Suits. Shirts. Ties. Wide range. Variety. Extempore. Formal. Casual. Trim. Loose. Get togethers.

**For ladies ?** More variety. Still more variety.

**Furnishing ?** Curtains. Chair covers. Table cloths. Runners. Centre spreads.

Here's the complete fabric to answer the most out-of-the-way questions . . .

Indian Handloom

Unique range. Endless patterns. Glistening or placid texture. Remarkable strength.

The Handloom Export Promotion Council, 123, Mount Road, Madras-6, INDIA.

## HIMACHAL PRADESH FINANCIAL CORPORATION

**Ist Floor, Kishore Bhawan, The Mall, Simla-1.**

(Established under the State Financial Corporations Act, 1951)

This Corporation has been established to financially assist the industries established or proposed to be established in the Union Territory of Himachal Pradesh.

**IN CASE YOU**

Propose to set up a new industry (including Hotel & Transport or already established but wish to expand your existing unit or have been allotted a plot of land/shed in one of the Industrial Area/Estate for starting an industry there.

AND FINANCE IS YOUR PROBLEM whether for creation of fixed assets or for working capital, then we may definitely prove of assistance to you.

WE ADVANCE loans ranging from Rs. 10,000/- to Rs. 10.00 lakhs in all cases but our maximum limit in case of Public Limited Companies and Industrial Co-operatives is Rs. 20.00 lakhs. The margin kept in favour of the Corporation for industries for creation of fixed assets is 40% (which is reduced to 25% in case of small scale industries whose investment in plant and machinery does not exceed Rs. 7.50 lakhs), 50% for Hotel Industries and 20% for Transport Industry. The present rate of interest is 3% above the bank rate with minimum of 9% per annum. The rate of interest for transport industry and loans exclusively for working capital is 10%. Margin for loans exclusively for working capital is 50%.

STAMP DUTY payable on mortgages in favour of the Corporation has been exempted. Please write or visit our office for detailed information.

GOVIND SAHAI
*Managing Director*

*Tel.* *Office:* **3109**
*Res.* : **3191**

*With compliments*

*from*

# KUMUDAM TRUST

83-PURUSAWALKAM HIGH ROAD

**MADRAS-10**

# INDUSTRIAL FINANCE CORPORATION OF INDIA

[ Incorporated in July, 1948 under the Industrial Finance Corporation Act, 1948 (XV of 1948) ]

**An all-India Financial Organisation in the Service of Industry**

*Head Office:*

**BURMAH-SHELL HOUSE**
**(ANNEXE-II)**
**CONNAUGHT CIRCUS**
**NEW DELHI-1**

*Branches:*

**BOMBAY,**
**CALCUTTA**
**AND**
**MADRAS**

## HIGHLIGHTS OF OPERATIONS

(as on December 31, 1969)

| | (Rs. in crores) |
|---|---|
| Paid-up Capital: | **8.35** |
| Reserves: | **10.94** |
| Financial assistance— | |
| (a) Sanctioned: | **328.67** |
| (b) Disbursed: | **291.65** |
| (c) Outstanding: | **192.41** |
| Assistance extended to Industrial Co-operatives: | **67.30** |
| Number of Industrial Co-operatives financed: | **90** |
| Number of Industrial Projects financed: | **497** |

## FORMS OF ASSISTANCE AVAILABLE

Only public limited companies and registered co-operative societies may apply. Public Sector Projects, organised as public limited companies, can also avail of assistance within the framework of Government policies. The Corporation's assistance—medium and long-term credits—could be in one or more of the following forms:

* **Grant of loans in rupees and foreign currencies.**
* **Underwriting of equity, preference, or debenture issues.**
* **Direct subscription to equity, preference shares and debentures.**
* **Guaranteeing deferred payments for plant and machinery imported or purchased within the country.**
* **Guaranteeing foreign currency loans raised from foreign banks or financial institutions.**

The Corporation welcomes enquiries from eligible applicants for financial assistance for setting up of new industrial projects or for expansion, diversification or modernization of existing projects. They may contact the Head Office or any of the Branches of the Corporation.

BALDEV PASRICHA
*General Manager*

C.D. KHANNA
*Chairman*

When in the State you travel by a bus or a taxi, see the trucks carrying all types of goods and petrol tankers hauling petroleum or stay in a hotel in the valley overlooking gorgeous mountains or in houseboats in the placid Dal Lake or river Jhelum enjoying quietude, you are not aware that Jammu and Kashmir State Financial Corporation is perhaps at the back of these vehicles, hotels and houseboats.

BUT THIS IS NOT ALL THE STORY

We have also financed a number of other industries such as flour mills, sawing and furniture-making, fruits canning and preservation, textiles spinning and weaving, rectifying and blending of spirits, automobiles body fabrication, ice manufacturing, engineering units, etc. etc.

BUT WE ARE NOT CONTENT

and

want to cover many many more units
in the service of the State

JAMMU AND KASHMIR STATE
FINANCIAL CORPORATION

**P.W.D. BUILDINGS**
Opp. New Transport Yard
Nehru Market
JAMMU (TAWI)

*Phone :* **8302**

**P.W.D. BUILDINGS**
Residency Road
Opp. Partap Park
SRINAGAR (KASHMIR)

*Phone :* **3282**

## INDIAN LEATHERS

India is a leading leather exporting country in the world. Leather and Allied Industries rank fifth among the materials which our country exports. In 1969-70, India earned foreign exchange of about Rs. 907 million for export of Leather and Leather Goods.

**Bulk of the production of these items is from Small Scale Industries Units**

The Leather Export Promotion Council has been sponsored by the Government of India to promote the export of tanned leathers and allied products.

*For further details, please write to:*

**LEATHER EXPORT PROMOTION COUNCIL**
"MARBLE HALL"
**3/38, VEPERY HIGH ROAD, MADRAS-3**

*Gram:* **"EXPROCIL"** *Phone:* **33498**

**Agriculture and Industry are just two Wheels of the Chariot of National Economy. Both, Properly Balanced and Geared, Enable Smooth and Quicker Pace of Growth.**

## The Maharashtra State Financial Corporation

**is in the field for OVER SIXTEEN YEARS, rendering valuable assistance to SMALL AND MEDIUM INDUSTRY.**

We give assistance for acquisition of capital assets in the shape of
**LAND AND BUILDINGS, PLANT AND MACHINERY**
**through loans upto ten years, deferred payment guarantee, etc., etc.**

B.D. GARWARE
*Chairman*

M.S. PALNITKAR, I.A.S.
*Managing Director*

*Head Office*
UNITED INDIA BUILDING,
**Sir P.M. Road, Bombay-1.**

*Regional Offices*
BOMBAY
POONA
KOLHAPUR
NAGPUR
AURANGABAD

*Branches*
PANJIM (GOA)
MIRAJ
JALGAON

*Sub-Offices*
RATNAGIRI
SHOLAPUR
NASIK
NANDED
AKOLA
AHMEDNAGAR

a CAPITAL
opportunity!

start your
small
industry
with
MIIC
AID

MIIC
THE FINANCIAL
INSTITUTION
WITH A HEART

*For details please write to us immediately.*
**The Madras Industrial
Investment Corporation Ltd.,**
L. L. A. Building, 150-A, Mount Road, Madras-2

Criterion-MIIC-2402

**for dispersal as well as steady growth**

midc strives for industrial development

Dedicated to the task of rapid, balanced and sound industrial growth in Maharashtra, MIDC has made spectacular progress in seven years of its existence. Basic intra-structure—land, power, water and approach roads—is provided for the industries. Today 25 industrial areas spread out all over the State are fully functioning and 5 areas are under development. The area developed so far stands at 7,500 hectares. The number of factories functioning is 507 with a capital outlay of over Rs. 200 crores and employing 23,000 workers. MIDC has thus played a pioneer's role in changing the industrial picture of Maharashtra.

**MAHARASHTRA INDUSTRIAL DEVELOPMENT CORPORATION**
*(A Government of Maharashtra Undertaking)*

Orient House, 5th Floor
Mangalore Street, Ballard Estate,
Bombay 1. (Tel: 266548)

Marol Industrial Area
Mahakali Caves Road Andheri (East)
Bombay 69 (Tel 571461)

# Mysore State Financial Corporation

**No. 7, I Main Road, Gandhinagar**
**Bangalore-9**

(Established under the S.F.C.'s Act, 1951)

*An active partner in Indian Industrial Development*

(Figures in Millions of Rupees)

| | | | |
|---|---|---|---|
| No. of Units Assisted | 517 | Authorised Capital | 20.00 |
| Amount of term loan sanctioned | 9.99 | Subscribed Capital | 10.00 |
| Deferred Payment Guarantee sanctioned | 1.41 | Reserves | 3.31 |
| Debentures subscribed | 1.00 | Deposits | 5.79 |
| | | Bonds issue | 41.55 |

*With best compliments*
*from :*

# M/S. NATIONAL IMPORT AND EXPORT CO.

**BOMBAY BAZAR, MEERUT**

WC/102

*Indian Handicrafts:*

- ★ **Art Brasswares, Wood Carvings**
- ★ **Ivory & Imitation Jewellery,**
- ★ **Horn & Rosewood Souvenirs,**
- ★ **Knives & Daggers etc.**

**Samples worth £25**

LP-35

## NATIONAL IMPORT & EXPORT CO.

**BOX NO. 28, MEERUT (INDIA)**

*Are you a small industrialist ?*

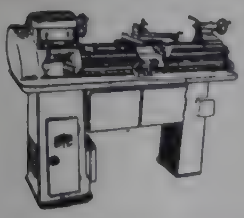
**LET GOVERNMENT HELP YOU**
**THROUGH N. S. I. C.**

*for*

| | |
|---|---|
| MACHINES | on easy instalment payment basis |
| PRODUCTION | of prototypes of machinery and machine tools and |
| TRAINING | to skilled and unskilled workers at the Prototype and Production Centres at Okhla (Delhi), Rajkot and Howrah |
| CONTRACTS | assistance from D. G. S. & D. and Railways for supply of stores |
| DISTRIBUTION | of Radio Valves and Transistor manufactured by M/s. Bharat Electronics Ltd., to small radio manufacturers |
| EXPORT | of selected small industries products. |

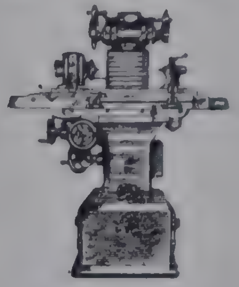
*For further particulars, you are welcome to call on or write to:*

**THE NATIONAL SMALL INDUSTRIES CORPORATION**
**LIMITED**
(A Government of India Undertaking)
**Near Industrial Estate, Okhla**
**NEW DELHI-20**

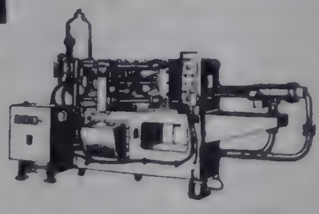


TOOL ROOM LATHE

# highly efficient dependable offered for export



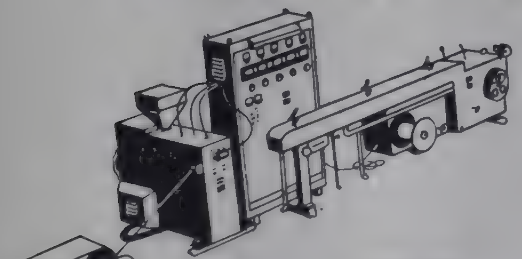
UNIVERSAL TOOL &
CUTTER GRINDER



DIE-CASTING MACHINE

## MACHINES

***MFD. UNDER EXPERT TECHNICAL SUPERVISION***



P.V.C EXTRUDER
& WIRE COATING MACHINE

Bulk export enquiries also solicited for light engineering items such as builder's Hardware, Locks, Sewing Machine parts, Cycles & Cycle parts, Hand Tools, Precision Components (through the lost-wax process), Tinned Foodstuff, Ceramics (Artware), Footwear and Leatherware.

**TOOL ROOM MACHINES.**
**METAL & WOOD WORKING MACHINES.**
**SWITCH BOARD INSTRUMENTS.**
**DIE CASTING MACHINE.**
**P. V. C. EXTRUDER.**

Enquiries to :-

**THE NATIONAL SMALL INDUSTRIES CORPORATION LTD.**
MARKETING DIVISION
( A Government of India Undertaking )
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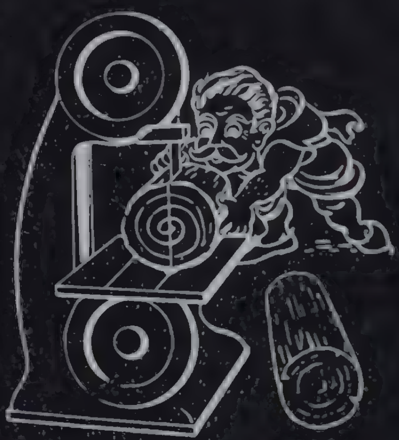

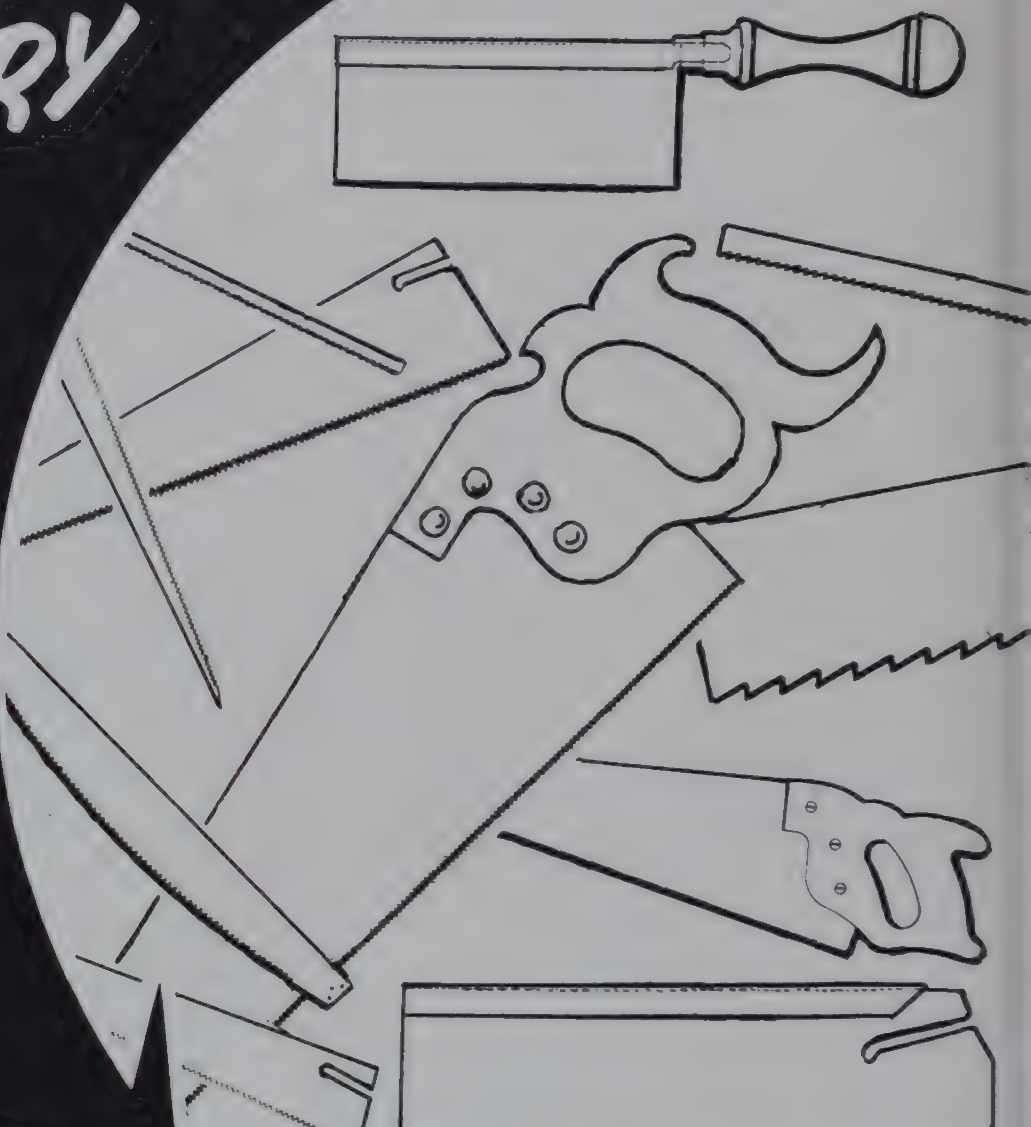

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(b) giving special consideration to the needs of backward areas by allowing easier terms of loan for schemes in such areas;

(c) promoting the cooperative organisations for distribution of electricity in rural areas by assisting the pilot cooperative projects with loans on easy terms.

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(1) approved 88 schemes sponsored by 15 State Electricity Boards involving a total loan of Rs. 47.84 crores for electrification of 7532 villages, energisation of 1,34,551 pump-sets and extension of electric power to 23,211 LT industries including agro-industries;

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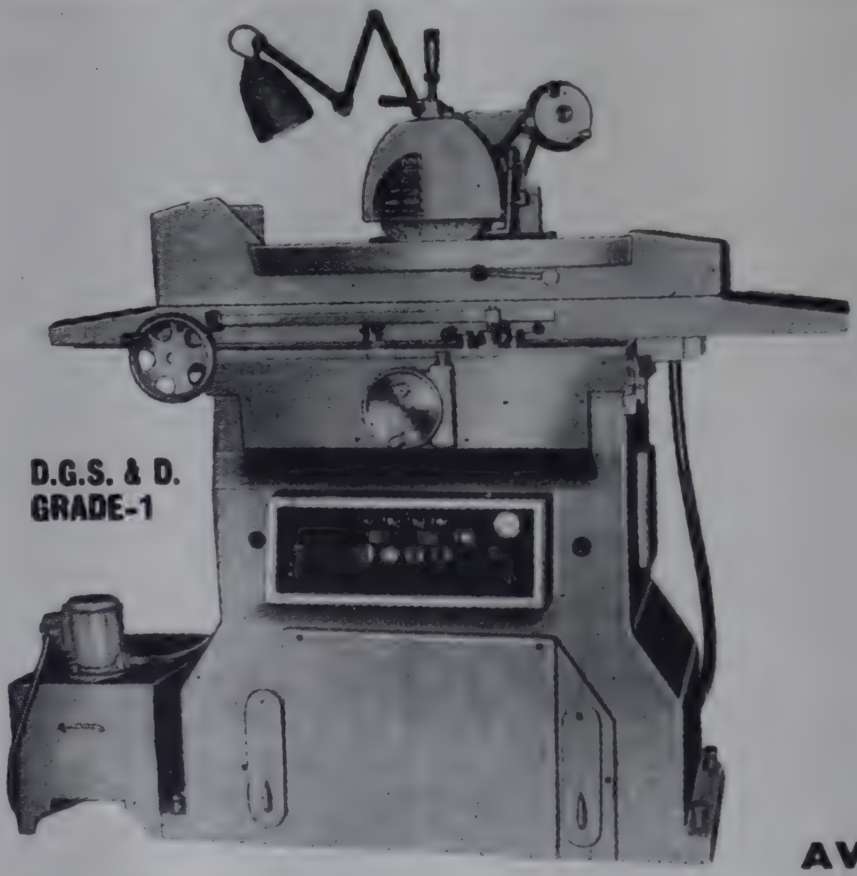

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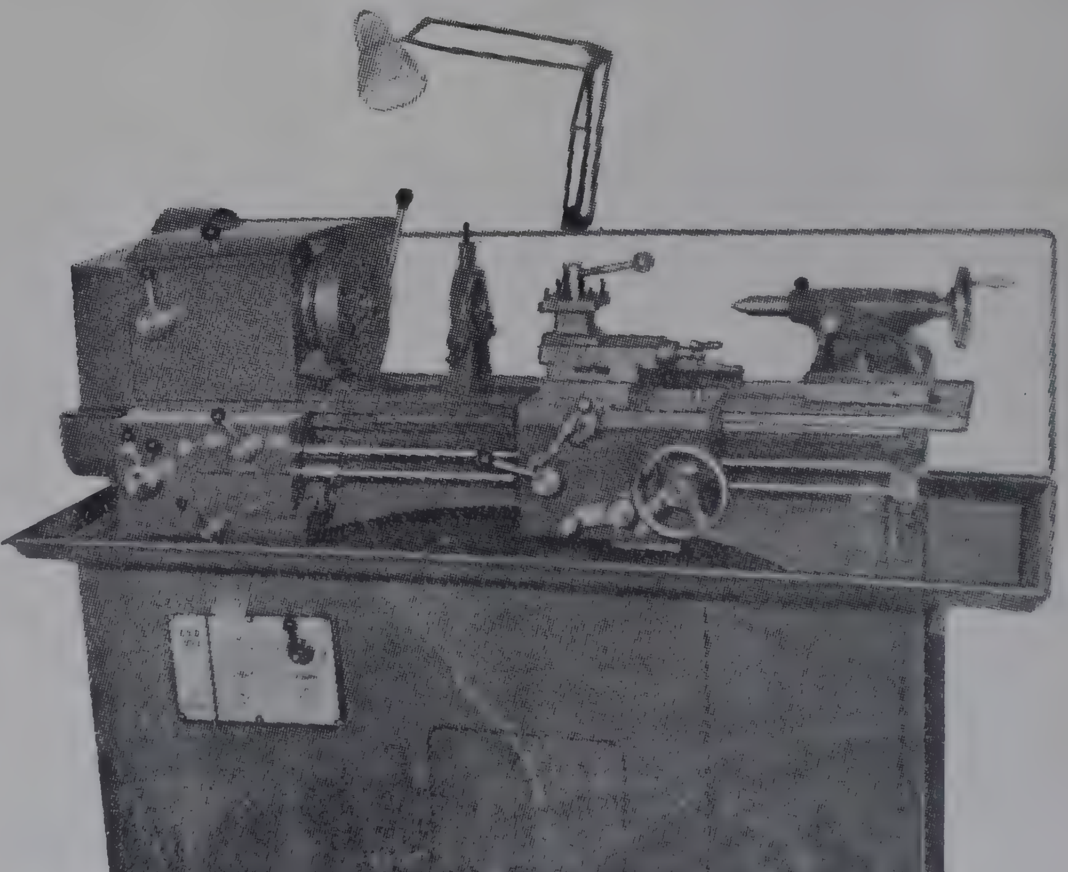

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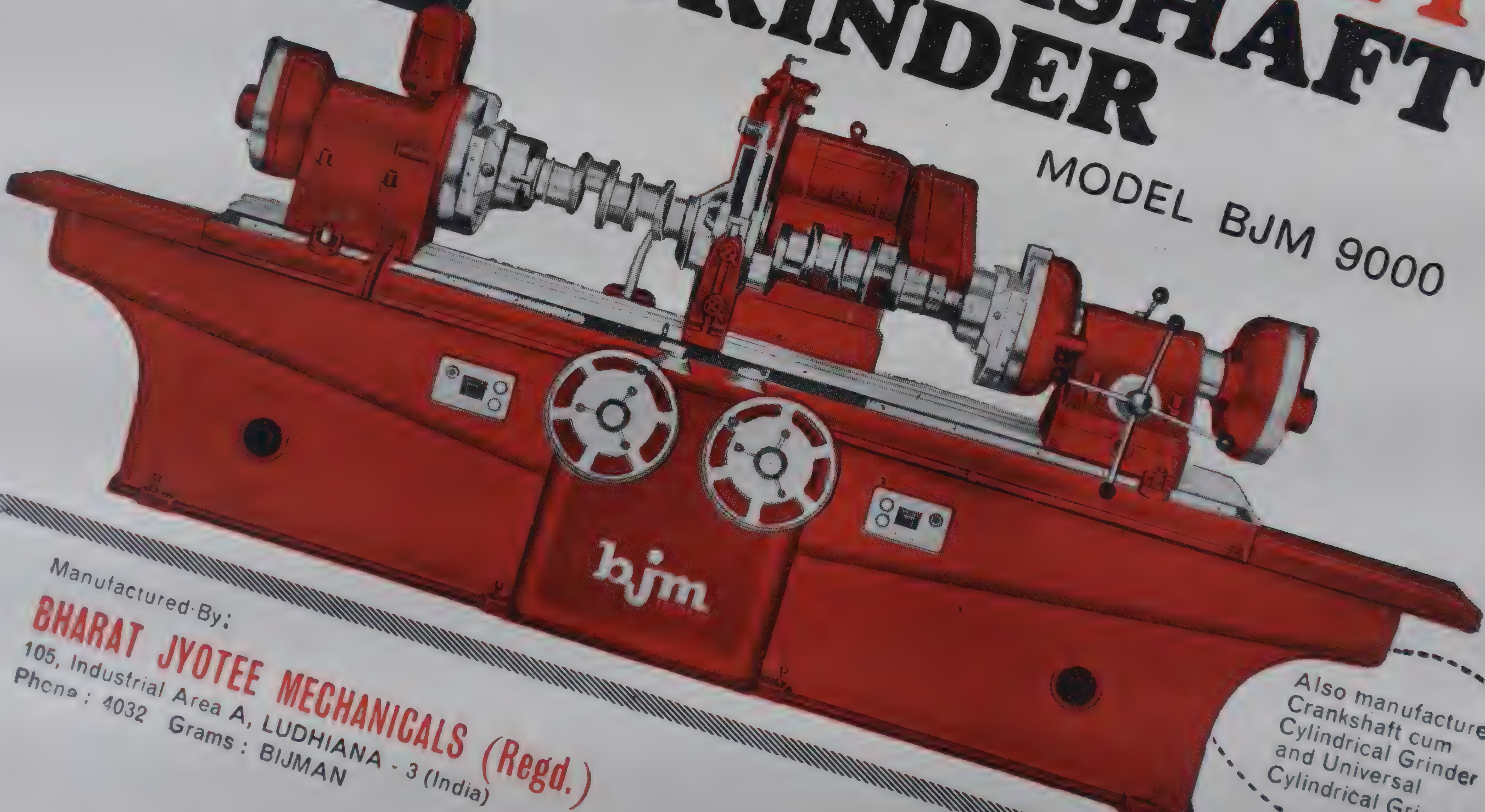

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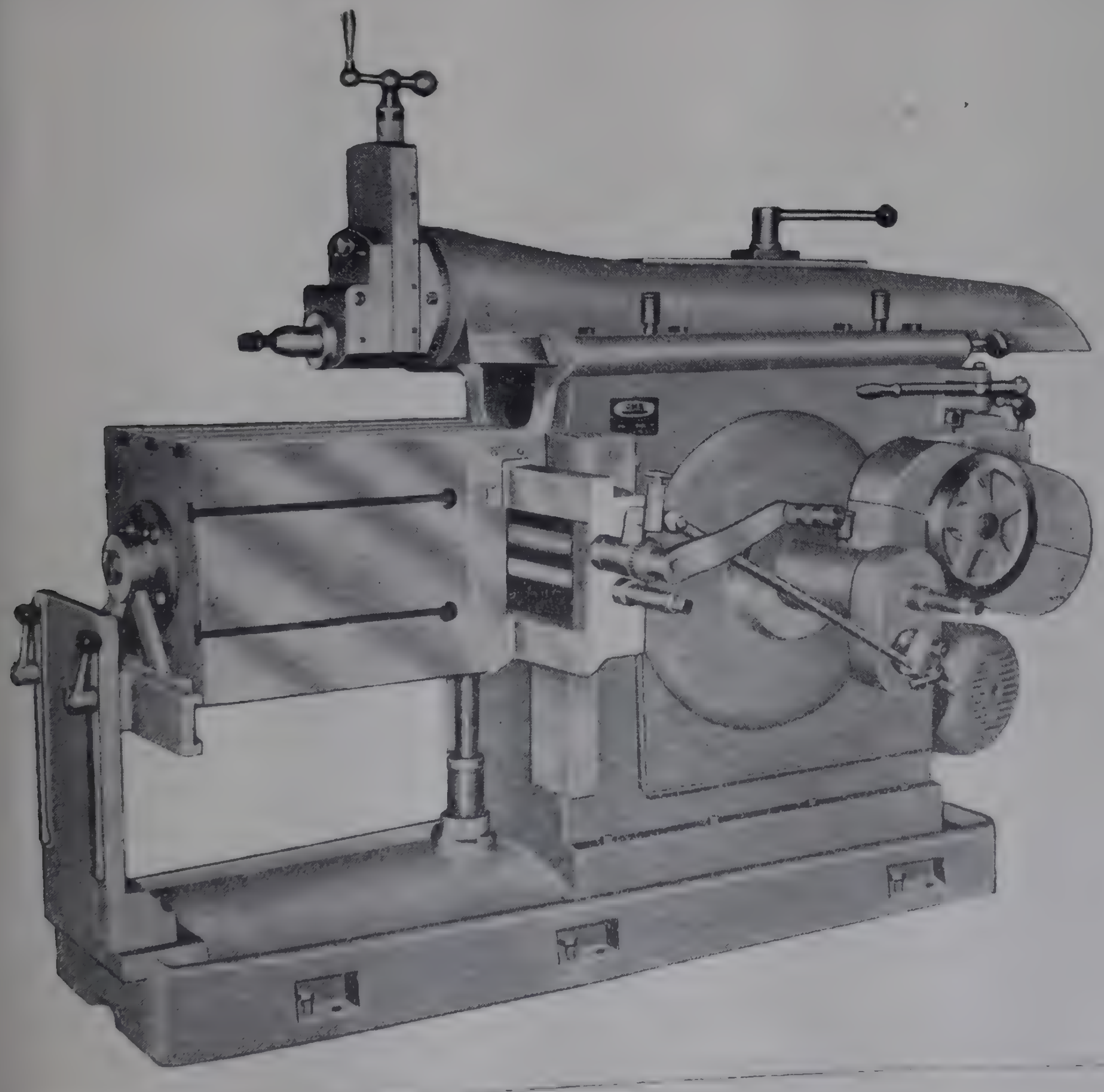

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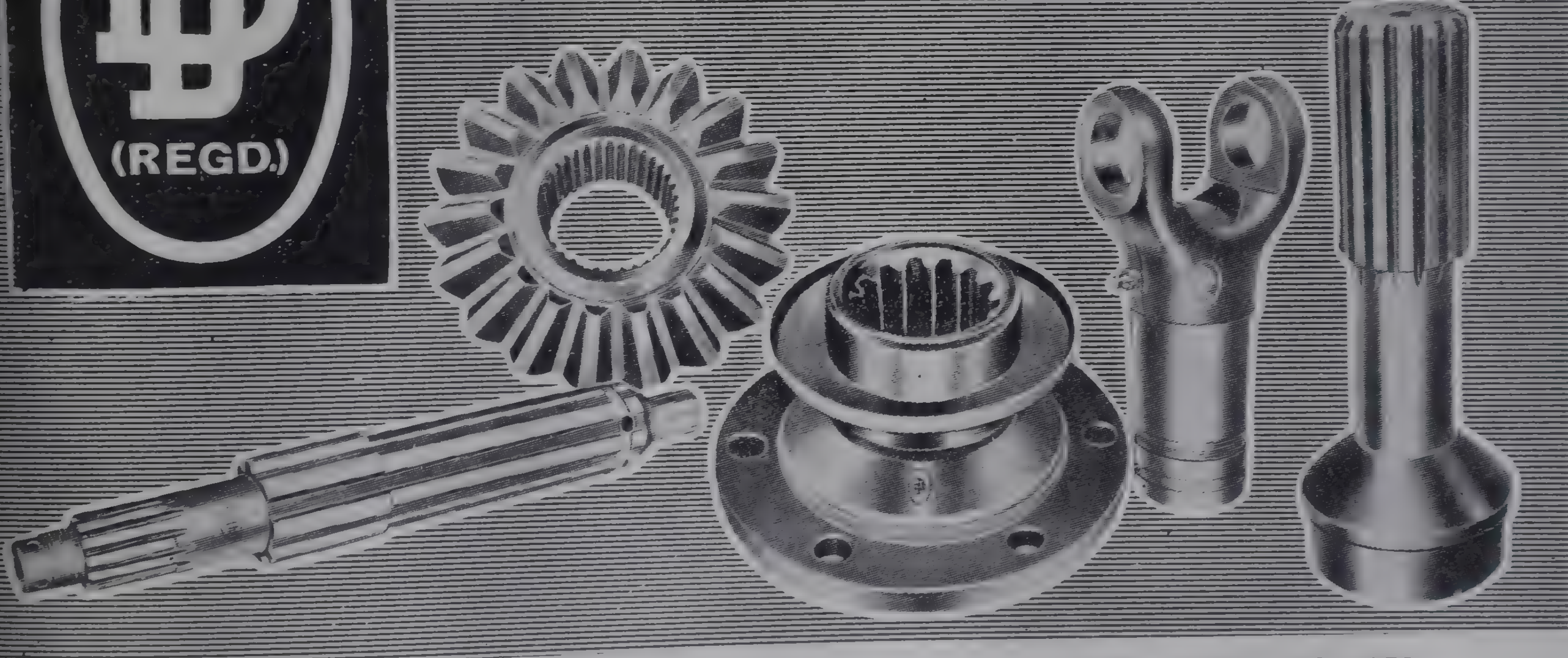

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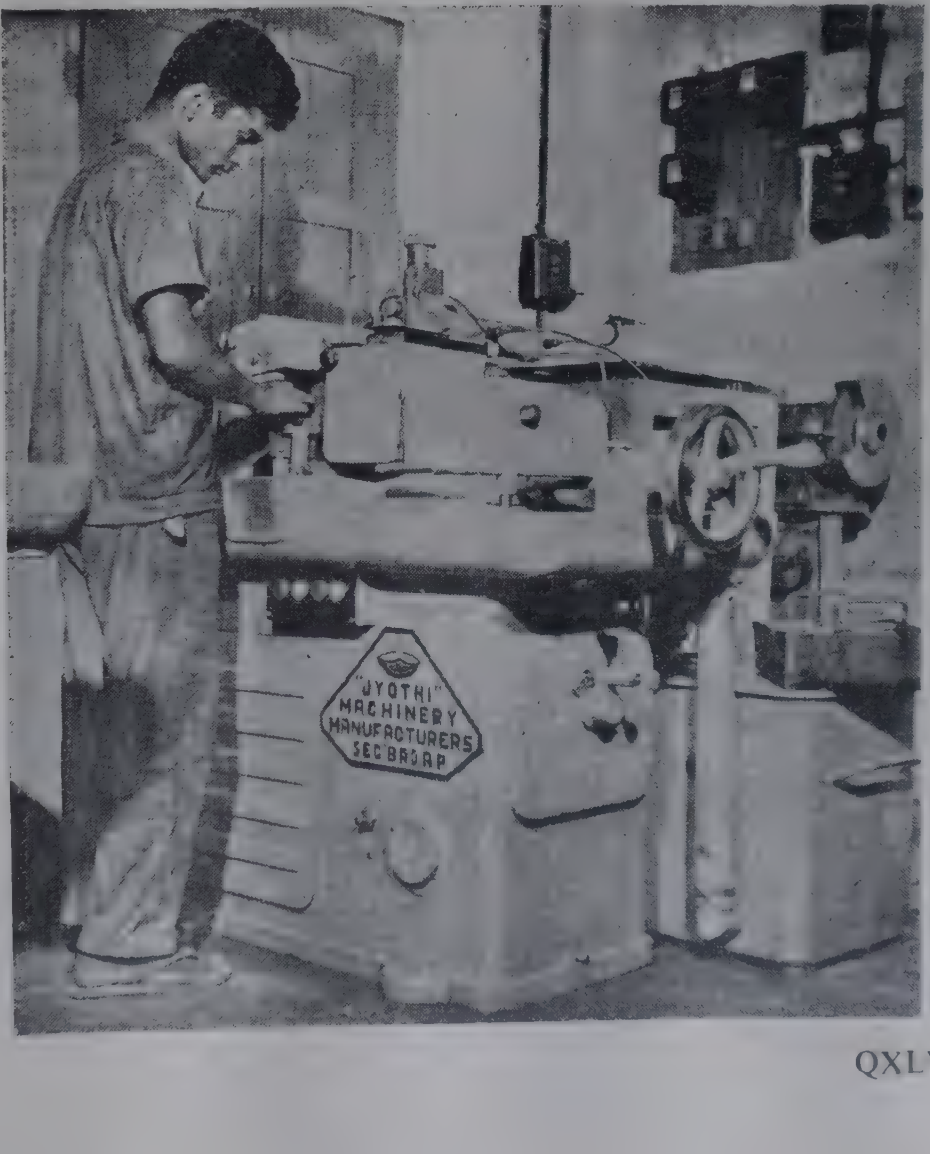

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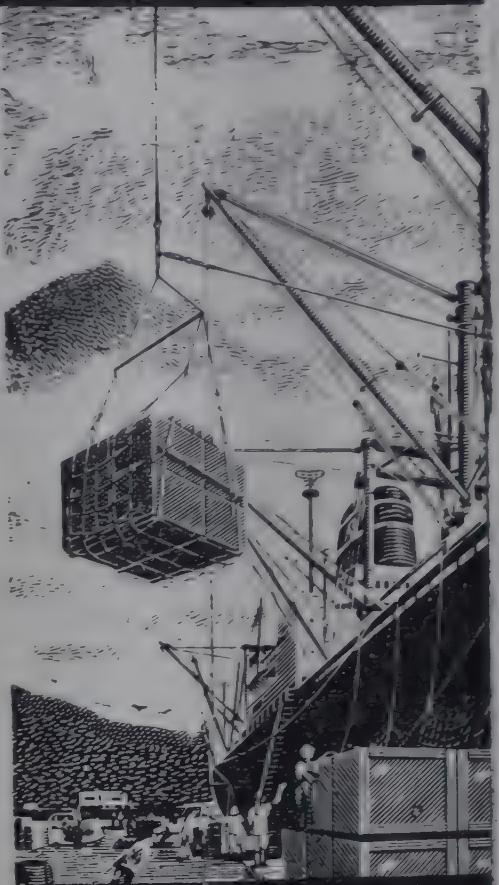

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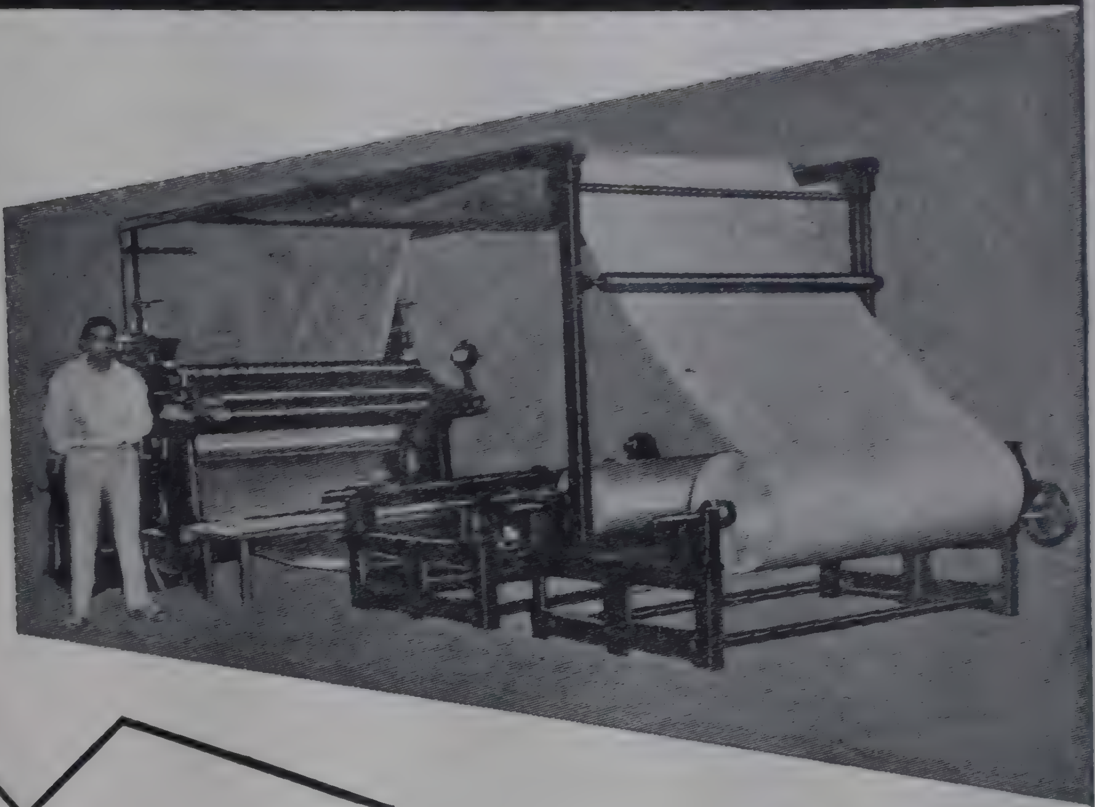

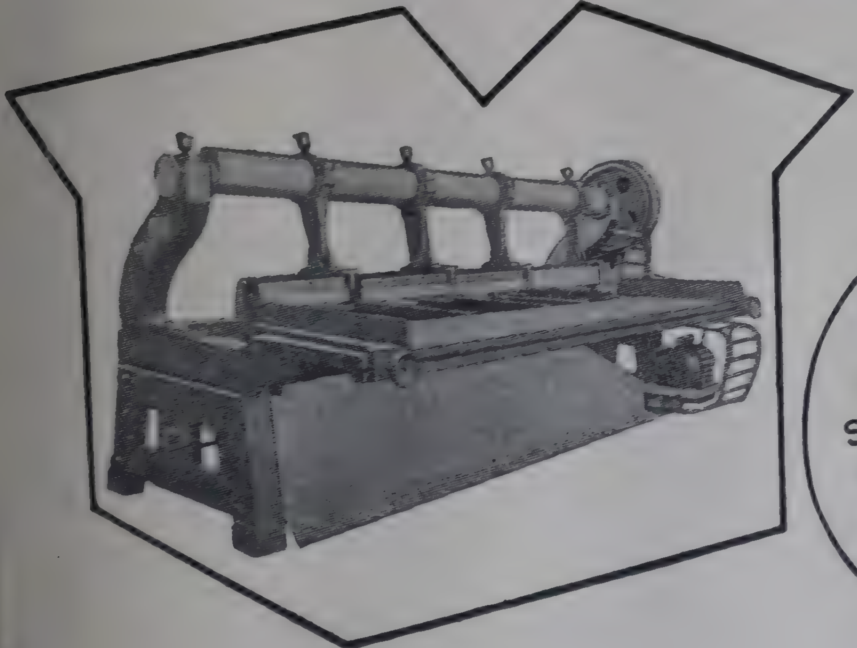

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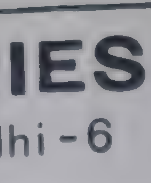

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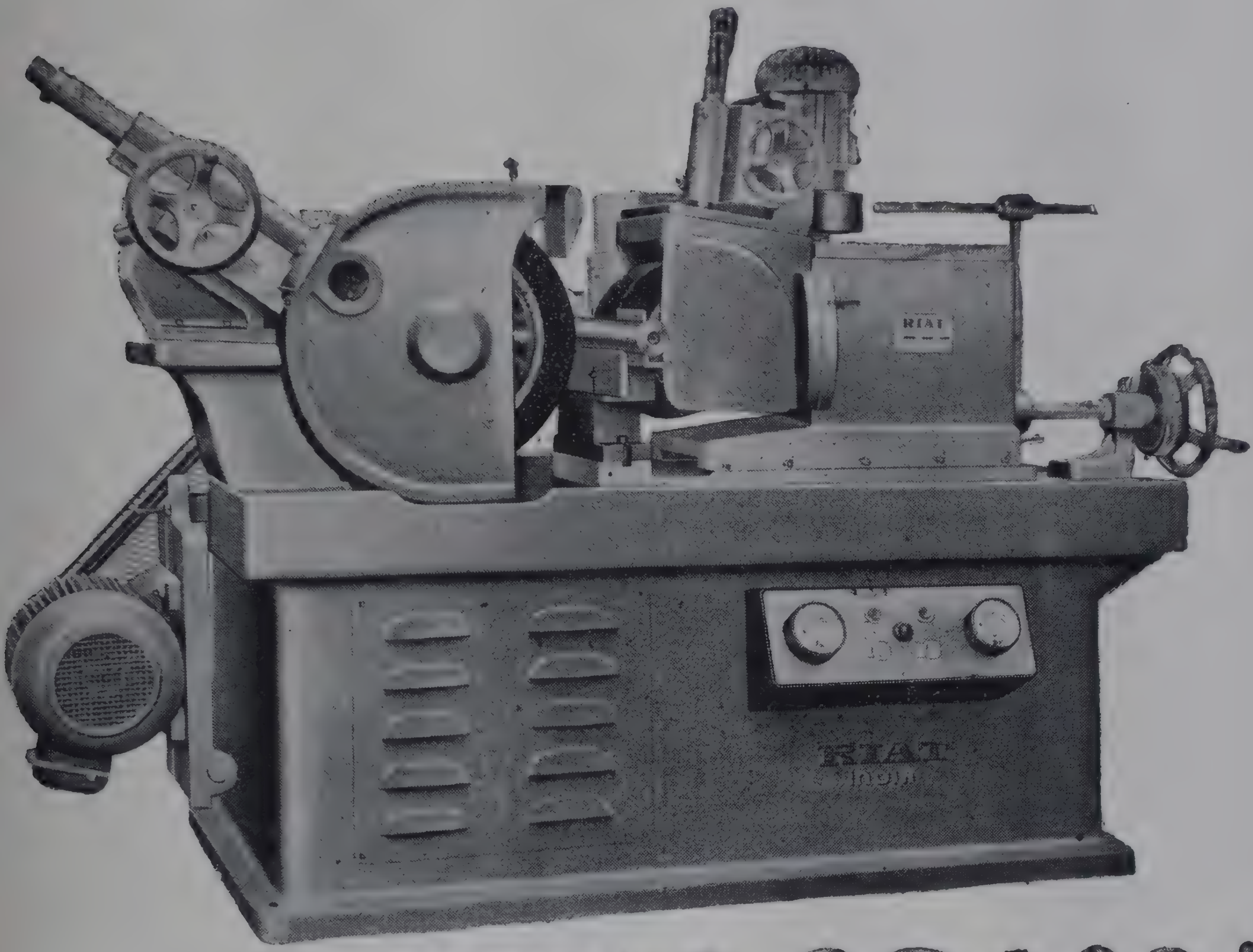

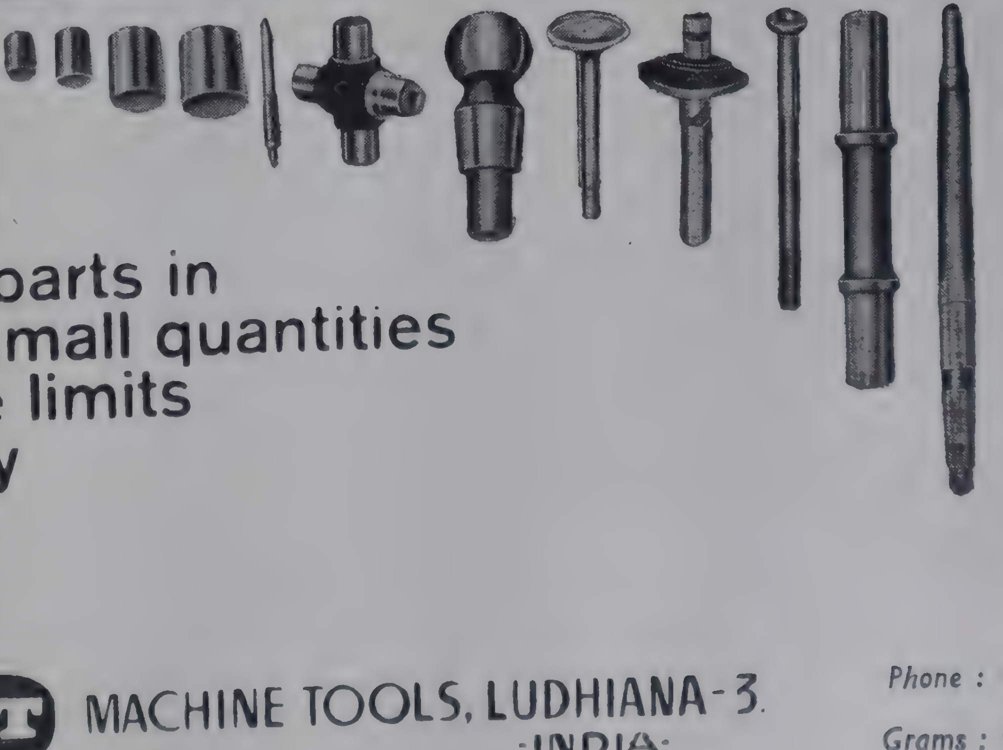

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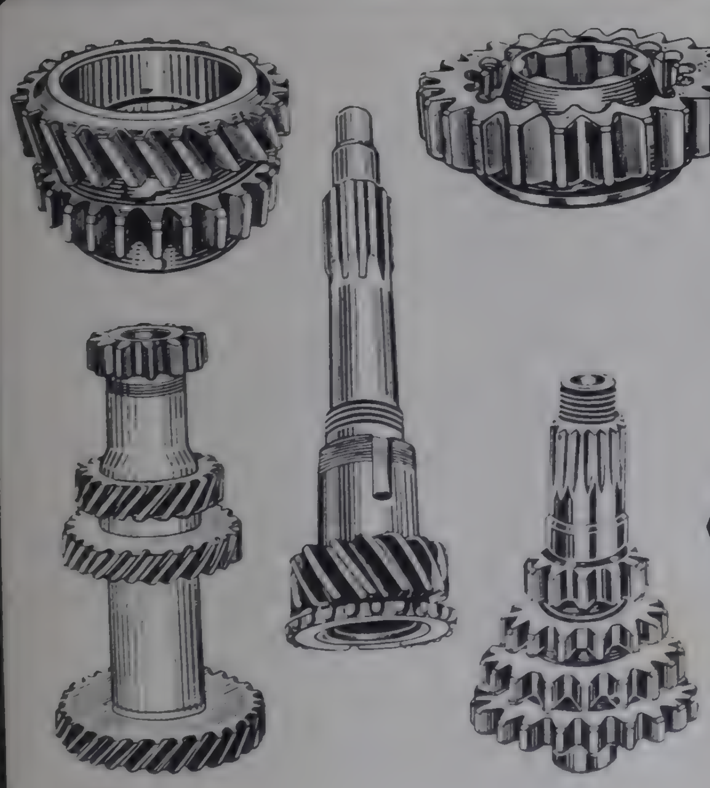

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